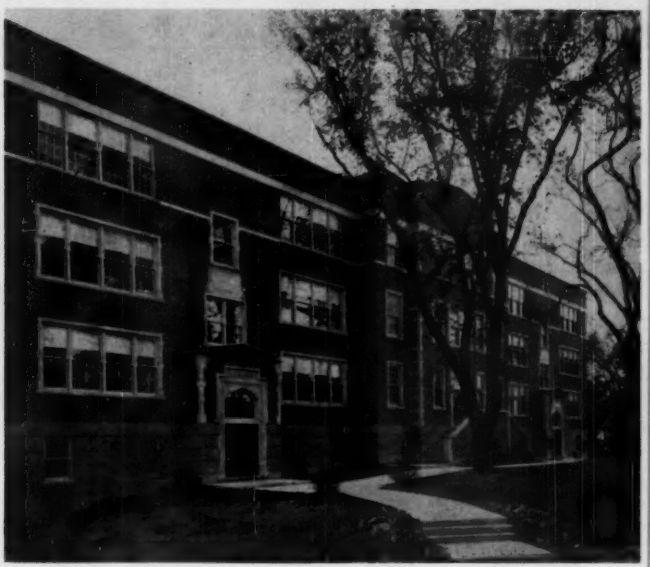
VOLUME 62, NO. 7 SEPTEMBER, 1960

PROCEEDINGS ISSUE

This issue is devoted entirely to the Proceedings of the Summer Meeting of the Alexander Graham Bell Association for the Deaf, Inc., held in Rochester, N. Y., June 27-July 1, 1960.

THE Volta REVIEW



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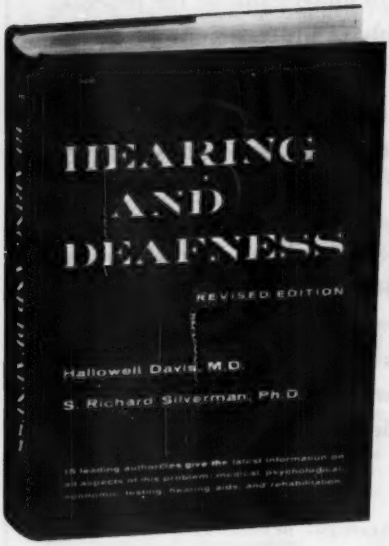

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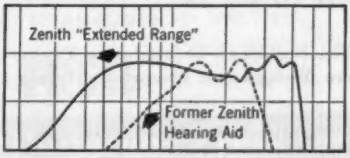

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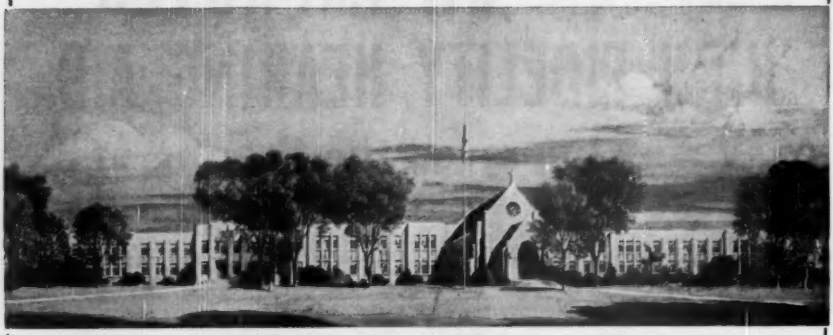

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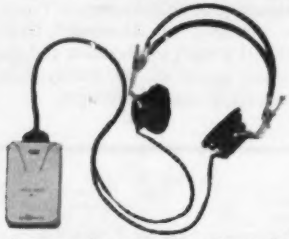

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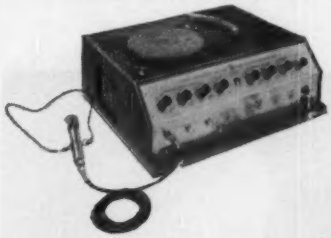

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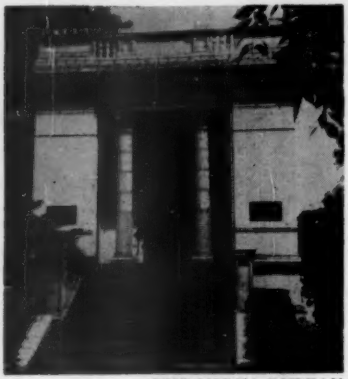

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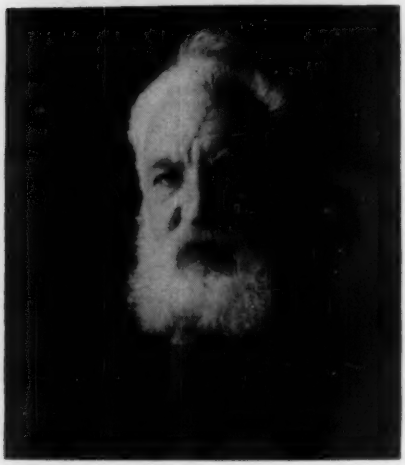

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COVER

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1960 Summer Meeting
June 27-July 1

Opening Session Monday A.M.

Presidential Address

GEORGE T. PRATT

The Alexander Graham Bell Association for the Deaf has *one* reason for its existence: "to use all means as may be deemed expedient to the end that no deaf child in America shall be allowed to grow up 'deaf and dumb' or 'mute' without persistent efforts having been made to teach him to speak and to read the lips." This is specified in our Constitution, adopted February 16, 1891. The other objectives are supportive in nature, or means to the end. As your President and responsible officer, I hereby publicly endorse and subscribe to that purpose, and pledge myself to devote such energy and ability as I may have to this cause.

Some progress has been made, as you know. Throughout recorded history there have been deaf children. For hundreds of years they were hopelessly beyond reach educationally, had limited legal status, were social outcasts. For over 200 years after the founding of Jamestown there were *no* schools for the deaf in this country. For another 50 years after the founding of the first school, the teaching of deaf children through speech and lipreading was considered by professional educators to be neither feasible nor practical.

According to the January 1960 *Annals of the Deaf* there are now 26,443 deaf children enrolled in 394 schools and classes in this country. Of these, 19,053 are reported to be taught orally; 1,049 non-orally; 1,967 by the combined method; 2,482 by the simultaneous method.

Are 19,000 of the 26,000 deaf children in our schools really functioning orally in their daily living? How many of these children actually rely upon speech and lipreading as their fundamental means of communication, habitually think in terms of speech?

Are we, as administrators of schools and members of the Alexander Graham Bell Association for the Deaf, sincerely striving to carry out the resolution "that earnest and persistent endeavors should be made in *every* school for the deaf to teach *every* pupil to speak and read from the lips?" That resolution was unanimously passed by the Eleventh Quadrennial Convention of Instructors of the Deaf, at the California School in July 1886, 74 years ago. Are you as teachers, parents, medical advisors, psychologists and governmental officials doing all you can to make this a reality?

We are gathered here this week, according to the program, to address ourselves to "The Problems and Issues" and "Where Are We Going?" In our deliberations we must keep the deaf child in focus before us. His need to function as an integral part of the world about him is deep and abiding, as basic as his breathing and heart beat. He is *not* an essentially inferior being, requiring our humanitarian assistance. Each deaf child has sublime dignity. It is to our shame that we drift into considering the deaf as an amorphous group. The deaf child has God-given potential, often equal to or superior to our own. We must not under-estimate him, nor over-estimate his hearing contemporaries. Until it is possible for him to achieve independence, he is at the mercy of parents, teachers and other professional help available to him. This is a heavy obligation. You and I know that we are better people from having come in contact with him. Can he say the same?

We have here a challenge and an opportunity, to assess honestly our shortcomings and to appraise the possibilities for real progress. In my opinion a metamorphosis could take place in the education of deaf children if our collective efforts could bring about a 25 per cent improvement in their speech. We should go after it enthusiastically; in the classrooms, in our teacher training centers, in research and in our professional discussions.

Dr. Silverman, our Past President, has advanced a "radical" idea: that we devote some future Summer Meeting exclusively to speech. I am in favor of it.

We are few. So far, we have had a long, uphill battle. There is still far to go, but our strength is as the strength of ten, because our cause is right.

Speech I Monday A.M.

Problems and Issues

Chairman: Eleanor Vorce, Principal, Lexington School for the Deaf, New York
Panel of Discussants: Dr. Joseph Rosenstein, Sister Rose Antonia, Dr. Cornelius Goetzinger and Dr. D. Robert Frisina

Problems and Issues in Teaching Speech

JANE BEASLEY RAPH
Dr. Raph is associate professor, School of Education at Rutgers University, New Brunswick, N. J.

The theme of this meeting, coming as it does at the end of the school year, gives us wide latitude in our thinking to focus on any number of aspects of speech teaching. We might consider particular materials or methods, or we might profitably attempt to describe and explain certain types of speech programs and their strengths and weaknesses. Certainly, any discussion in regard to a solution of some problems, or to a reconciling of issues, involves capacity to look at them openly with some degree of objectivity, communicate freely about them, and, if need be, venture some risks in a search for appropriate conclusions.

This paper will be directed to two facets of the educational process as it pertains to the teaching of speech, that of (1) possible negative correlates or effects of specialized help on the preschool age child's personality development, and (2) unconscious determinants or influences of motivation on the school age child's drive for achievement.

You will notice that these topics are more closely allied to psychology than to speech, but I trust the relation will become apparent as we proceed. These issues, correlates of help, and motivation, seem to me to have relevance for whatever training is provided any child at the preschool or school-age level. Such factors would be operative whether some kind of organic impairment is interfering with a child's communication or whether a so-called functional or psychological cause has resulted in a child's having difficulty with the talking-listening-learning process. Similarly, any normally developing child exposed to regular school experiences would be influenced by them.

The references to psychology contained here reflect two trends apparent in nearly all scientific fields today, one being that of broader interdisciplinary thinking going hand-in-hand with increased specialization. We witness, for example, the tremendous technological advances which have so markedly and rapidly altered our assessment procedures in speech and hearing, our use of prosthetic devices, and our educational procedures. The other trend is that of recognition of the constellation of relationships between normal and abnormal crucial to an understanding of both. A young blind child seen in play therapy, for example, taught me much about language development, just as observations of young deaf children in several parts of the country taught me a new humility about the complexity of any child's formation of concepts. McCarthy[5] reminded us recently in her summary of language research at the 40th anniversary of the Iowa Child Welfare Research Station, that: "Just as in the field of clinical psychology, much can be learned of the normal from a study of the abnormal, so, too, much light has been shed on the normal language process by a study of the various syndromes of language disorders."

Although the process of correcting the speech of a child who *has* language and who *hears* differs markedly in many respects from the process of developing language in a deaf child and working with him on refinements necessary for intelligibility, there are factors common to both. We share knowledge about the characteristics of language development, the mechanics of vowel and consonant production, and the essentials of what constitutes adequate communication. We also draw on information regarding the growth and development of all children.

Let's explore first some possible correlates of special assistance on any handicapped child's development, particularly the preschooler with a speech defect. In nearly all fields of exceptionality today there is stress on early identification, early training and guidance by a team of experts who pool their opinions and outline a total program for a child. This concept has been particularly well formulated in centers where comprehensive assessment and planning for children with cerebral palsy, cleft palate, mental retardation and hearing loss utilize the services of a number of professional workers. These range from the pediatrician and social worker to the otologist, audiologist, surgeon, dentist, psychologist and nurse through to the nursery school and grade school teacher. Any of us who has been associated with such a program

is aware of its many advantages and has had numerous occasions to see worthwhile important results growing out of it. If we are in an area where such richness of resource and manpower is not readily available, we know full well the tremendous need for this very kind of program.

But apart from the merits of early help, it is well, it seems to me, to be aware of some corresponding hazards to the healthy emotional development of the child exposed to such a multiplicity of benefits. Witmer and Kotinsky[12] point out that the child from two to six is at his peak of language learning and development and that whatever interferes with the normalcy of activities in this age range takes its greatest toll in the personality development of the child. It is true that if a child is not hearing adequately, not talking, or not talking in a conventional manner, and if no assistance is available, that he will suffer from the reactions of others to him, as well as from his own difficulties. But in our eagerness to prevent further occurrence of this suffering or avoid any more damage to the personality development of the child, we have to take care not to impose other kinds of penalties. For instance, the number of adult relationships to which the child is exposed can be overwhelming and confusing to him. Likewise, the normal vicissitudes of parent-child relationships can be increased to the child's detriment in the parents' well-meaning efforts to follow the suggestions of the professional workers so conscientiously that they lose sight of their own essential roles and center greater attention on the child's handicap than on the child. Moreover, separation of the child prematurely from his parents even for a few hours daily, or for a period or two a week can cause more insecurity and uncertainty in the child than it alleviates.

A second possible effect of early training has to do with the young child's inability to differentiate between having inadequate or incorrect speech and being inadequate. In other words, any pressure, persistent stimulation, or informal or formal instruction pertaining to a child's talking has the potential for conveying something of a negative evaluation of him. "No, not that way, THIS way," may cause the child to confuse, "My speech is not good," with, "I'm no good." While nearly all child-rearing practices and educational procedures designed to teach the child certain societal expectations contain a similar risk of actually teaching him feelings of inferiority and inadequacy, the barrage of particular kinds of responses demanded of the speech handicapped child accentuates this danger.

A third area in which help can possibly interfere with normal developmental hurdles revolves around the child's acquisition of the social modalities termed by Erikson[2] autonomy and initiative, a child's ability to experience his growing powers of achievement and greater freedom to explore and experiment. Both are less easily achieved if a child's speech and language prevent the rich interchange of ideas and information children reach for so eagerly in the preschool years. Paradoxically, concerted efforts to bring about improved speech through instruction may operate against the child's spontaneous impulses, just as the usual parental admonitions while a child establishes control of eating, dressing, toileting and cooperative play skills can prevent the accomplishment of the very tasks the parent is emphasizing.

Most of these dangers are realized by parents and professional workers to some extent, and there is a concerted effort to supply the child with an atmosphere of warmth, supporting affection and relative freedom when instruction of any kind at an early age is necessary. Such ingredients are essential whether the learning tasks involved are those required of all children or the extra requirements placed on the handicapped child. This provision is undoubtedly the most important, particularly if one close, consistent relationship, preferably the mother's, can be sustained regardless of the prevalence of several experts who see the child regularly or intermittently; if the mother, in appraising the child, can reflect unconditional approval regardless of the child's difficulties or degrees of progress; and if she can sense the child's continuing need for every possible opportunity to widen the scope of his whole range of abilities notwithstanding the presence of a disability. The important safeguard here, one that needs to be heeded by parents and professional workers, is recognition of the fact that the greater amount of attention and help merited by the exceptional child contains within it the latent possibility of fostering disproportionate dependencies and their ensuing resentments. The sensitivity and responsibility required of the adult is considerable here. He must provide these children with sufficient attention and encouragement for them to begin to realize their own worth on the one hand, and yet be consistently firm and objective on the other hand so that children will begin to make an effort to achieve self-realization and independence at the level at which they are capable of functioning.

Thus far, then, I have noted the likelihood of four negative correlates that could accompany the many benefits of early identification and treatment of a speech defect: (1) the child's difficulty in establishing a sense of trust in the adults around him because of their many and varied concerns and expectations related to his speech impairment; (2) the child's vulnerability to viewing himself of lit-

tle worth because others have appraised his *speech* as lacking in worth; (3) the interferences with the child's development of a sense of free choice and leeway to move out on his own in all social modalities because his particular speech characteristics either restrict him by their very nature or because he is restricted by virtue of being taught what to say and how to say it rather than acquiring speech proficiency more spontaneously and meaningfully in the natural language learning setting and (4) the ever-present hazard of the child's prolonging unrealistically and inappropriately his dependency needs.

It is inevitable that advancements along any frontier of knowledge create new dangers in the wake of removing old ones. It does not seem to me that the presence of some adverse correlates in our work with young children should, however, discourage us, or cause us to think even momentarily of abandoning the progress we have made. It does suggest that we become aware of the potential shortcomings of the ways in which we work and see where we can institute modifications which will minimize dangers to healthy emotional development. In our work with speech handicapped preschoolers there has been some evidence of shifts, for instance, from a wholly speech or informal speech teaching orientation to one of play for children where communication is never stressed to the exclusion of the child's developmental patterns. Parents are listened to more than talked to. Speech therapists are attempting to gain greater objectivity about their work and beginning to understand better that the child's potential for self-realization and independence resides within the child himself and can be led out but not placed in him. Therapists are also spending more time observing children, listening to them, knowing that the more knowledge they develop in regard to children's behavior and its meanings, the more assistance they can provide for the needs of the child.

Turning our attention now from some issues critical to personality formation which are of primary importance in the preschool years, let's consider for a time one of the primary sources of concern in the middle years of childhood and in adolescence: the problem of motivation for learning.* Motivation usually suggests immediately the extremes we see in any group of children—those who seem to have a drive to achieve and who bend every effort toward academic proficiency, and those children described by teachers as the ones who "could if they would," or the ones who "just aren't interested and don't care." Teachers, including speech therapists, continually search for better techniques, devices, or instructional materials which will appeal to this less motivated group and will bring about differences in behavior and improved learning. If, as a result, the learner's inertia is converted into effort toward the desired goal, motivation is then assumed to have been accomplished. This places the burden of the work largely on the shoulders of the teacher. Such a concept of motivation is appropriate in an educational setting, and in its best sense is of critical importance for understanding the learning process better. However, unless certain other features are taken into account, such a view suggests a kind of puppetry wherein an operator pulls strings to obtain the results he wants. When success and failure rest more with the teacher than with the learner, failure that results in a search for more effective means of motivation may take the teacher further and further away from the real source of the difficulty, the child himself, and the child's inner determinants of motivation.

If we consider here that the values and attitudes present in a child's motivations are determined by certain psychodynamic factors, and gain some understanding of what such factors may be, our instructional procedures may become more closely meshed with the functioning of the child, and hopefully, more efficient. The central theme in regard to motivation with which I want to deal today is the concept of unconscious determinants of behavior. The presence of unconscious factors in everyone's life which operate purposefully, albeit without our awareness, to make it possible for the person to adjust as comfortably as possible and with a minimum of anxiety to the stresses of daily living is well known and recognized through the work of Freud and his contemporaries, as well as through work currently going on in psychology and psychiatry. As yet the concept has not filtered through to educational practices to any great degree, partly because of the usual lag in teacher-training between theoretical development and application, and in part, because it is a somewhat uncomfortable idea to accept that not only are we ourselves motivated from day to day by needs, defenses and anxieties we know not of, but so are the children we teach. This concept negates in some respects those foundations of educational methodology which are based almost entirely on a rational, logical approach emphasizing intellect, will power and hard work as the essentials of the learning process. As it happens, learning cannot be accounted for entirely by either phenomenon, but let me elaborate somewhat on the less familiar concept:—the idea that certain nonacademic determinants of achievement, determinants other than ability level, voluntary acts and cognitively guided skills can be identified and studied.

*This section of the paper is adapted from an article, "Determinants of Motivation in Speech Therapy," by Dr. Raph, which appeared in the *Journal of Speech and Hearing Disorders*, Feb., 1960.

McClelland[6,7,8,9] has developed a method for assessment of the achievement motive through analysis of imaginative thought. By use of standardized procedures, persons with high achievement drive can be differentiated from those of low achievement drive by presenting them with a series of pictures and certain direction for writing about the picture. Under test conditions set up to induce achievement tension, those with high achievement drive tend to produce stories in which more characters are described as wanting to get ahead, doing something useful about getting ahead, and thinking in advance about success and failure than are the characters in the stories of the persons with low achievement drive. Aronson,[1] in turn, has developed a method for assessing the achievement motive at an early age by scoring for it from expressive doodles or scribbles made by children.

Related studies have dealt with some of the possible origins of achievement motives, four of which will be described below. One deals with the effects of early independence training on achievement drive, a second with the influence power structure within a family has on achievement, and the third and fourth with the effects of controlled hostility and aggression on school performance.

Winterbottom[11] compared the child-rearing practices of mothers of a group of eight-year-olds designated as having strong achievement drive with mothers of eight-year-old boys designated as having weak achievement drive. The mothers of children with strong achievement drive differed in that they (1) made more demands on their children before the age of eight; (2) evaluated their children's accomplishments higher and were more rewarding; (3) made more restrictions on their children before the age of seven, but fewer restrictions after age seven and (4) made a greater number of demands than restrictions before age seven. The investigator concluded that while her findings showed the complexity of the determinants of the drive to achieve and the need for much more experimental evidence, they also indicated the importance of the mother's influence on the child's achievement of independence and mastery.

Strodtbeck[8] investigated the effects of the interpersonal relationships within families based on decision-making power and participation between parents and with the son on the achievement-related attitudes of high school boys. He obtained evidence that the power position of the father was critical, that boys with dominant fathers tended to be submissive, have low achievement values, maintain a belief in destiny beyond their control and show unwillingness to leave home. On the other hand, if the mother's power were stronger as reflected in the fact that she won relatively more decisions, then the son was likely to have higher achievement values.

Both Kimbell[3] and Kirk,[4] in studying academic underachievement, found that poor father-son relationships resulted in considerable underlying aggression, few outlets for feelings and consequent guilt and anxiety. These researchers hypothesized, in separate studies on the basis of their findings, that resistance and repression were directed toward strong efforts to control such hostility and acted as deterrents or immobilizing influences on school performance.

The practical speech therapist may well question the relationship between this fairly speculative analysis of the fantasy productions of persons and its application to a person's response to teaching. An illustration may help to clarify possible implications.

Pre-adolescents enrolled in a full-time program of speech therapy with a number of teachers were asked to write as rapidly as possible as many ideas as they could think of pertaining to their work in speech, anything at all that came to their minds. A representative sample contained the following: "Work hard. Do your best. Say it again THIS way. Do your home work good. Open your mouth bigger. Take your time. Don't work so hard at it. Practice for about 10 minutes on that. Think before you speak. Say it again. Do it over again. Now again. Don't stop. Practice. Practice. Practice." Many inferences may be drawn from these statements. Particularly relevant to this discussion is the apparent evidence that the therapists in this setting saw results as largely dictated by repetition and conscious control. If the student improved, the change could be attributed to effort, while lack of improvement could be explained by a failure of effort. In either instance, the explanation would be somewhat superficial and inadequate on the basis of the present concept of motivation.

A more relevant explanation of the therapeutic situation would be an attempt to account for the child's effort or lack of it. What can easily be regarded as a child's determination to improve his speech may actually represent a need for approval to enhance his sense of worth, or a drive for mastery, or a pattern of affiliating with an authority-figure as a means of maintaining security. While such behavior and the resulting improvement in speech can be rewarding to the speech therapist, care must be taken that the child has opportunity to develop a sense of esteem for himself not entirely rooted in the opinions of others, that he can accept his own shortcomings and that he can function as an individual in his own right.

In contrast, a child's failure to change his speech may have little to do with wanting to talk better, but may be a reflection of a basic motivational pattern. This pattern he may

have adopted as a means of coping with parental restrictions against exploration or initiative, for example. Or he may unconsciously fear expressing feelings of hostility, which places a heavy burden of constriction on any oral expression. Resistance to change can often be a child's way of grasping at a thin thread of interest or support from the therapist which might be denied to him if his speech becomes adequate. At a more symbolic level, the oral attention he receives from the speech therapist may be, to him, nourishment or punishment which had been necessary to him, or denied him as an infant. Such inferences can, of course, be only conjecture, conjecture rooted in theory and supported by that dubious assistant, clinical judgment. However, the facts of unknowns and complexities in the organism's struggle to achieve integration remains, a struggle peculiar to each individual, not an acceptable pattern of a particular kind thought by others to be the best and most satisfying.

To the degree then that any disorder in communication either is caused in part by psychological defenses or has resulted in certain emotional safeguards, the usual practice, drill, admonitions and learning rewards will have reduced influence. A child whose unintelligible speech is protecting him from growing up and assuming responsibility, from expressing deep-seated resentments and hostilities which could result in punishment, from unreasonably high standards set for him at home, will need more than the usual pedagogical procedures if he is to modify his speech.

The speech therapist here will need to have some background in developmental psychology, some sensitivity to the nuances in the teaching relationships, and a willingness to learn as much as possible about an individual's emotional functioning. Obviously, a speech therapist cannot do a case study on each child with whom he works, but he can often gain sufficient information from a conference with the child's teacher and parent to confirm some of his own observations. In some instances he can also avail himself of the services of the school psychologist or social worker, or of a child guidance clinic. His awareness of the presence of feelings on the part of the child may be as important as any information he gathers, awareness that the child does not automatically want to talk better—or if he does, that the process is not a simple matter of volitional control. Once the therapist's point of view shifts from seeking an explanation for what occurs in speech class in the teaching method alone, or in the stereotype of the cooperative or non-cooperative pupils, and considers the presence of motivational determinants within all children, he will discover productive possibilities for a better understanding of human behavior and for facilitating the teaching-learning process.

In summary, this paper has suggested some possible correlates of early identification and training for the young preschooler with a speech defect. In addition, it has described some current research findings in the area of motivation, and has suggested some implications of this research for speech therapy.

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9. McClelland, D., Atkinson, J., Clark, R., and Lowell, E., *The Achievement Motive*. New York: Appleton-Century-Crofts, Inc., 1953.
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11. Winterbottom, M., "The relation of need for achievement to learning experiences in independence and mastery." *Motives in Fantasy, Action, and Society*, ibid.
12. Witmer, H., and Kotinsky, R., *Personality in the Making*. New York: Harper and Brothers, 1952.

Panel Discussion

JOSEPH ROSENSTEIN

Dr. Rosenstein is a research associate at Central Institute for the Deaf, St. Louis.

The professional worker who views the deaf child regards him in the light of his or her experience and background, is guided by the training he has received, and refers to the deaf child in the vocabulary of his chosen profession. We would agree, for example, upon what was occurring in any teaching situation, whether we spoke as teachers, of the cooperative child who does his work well, and who is eager and alert; or as clinical psychologists, described the child as being motivated by a drive for mastery, resulting from parental restrictions on his growing needs for independent behavior; or, as research workers, viewed the child's behavior objectively in terms of how many times the child attempted or succeeded in a given task, or of how long

he persisted in doing that task. These differences in vocabulary or frames of reference, of course, do not suggest that one is better, or another less preferred, but rather point out the many ways by which each of us explain and interpret the behavior of children, whether hearing, speech-handicapped or deaf.

There is little to say concerning research reports on the relation of determinants of motivation to the teaching of speech to the deaf, and this is because investigations which deal with these topics simply have not been done. The conventional way in which research in this area has been conducted has been to compare the speech of deaf children with that of hearing children. Further steps in this research have led to the analysis of the speech of the deaf itself, and consequently to a classification of the typical errors which deaf children make, as in Hudgins and Numbers'[1] classical study of the articulation of phonemes and the combination of phonemes. At present there is much thought and the beginnings of activity about how speech may be packaged into the different modalities. A good example of this is the optimum use of residual hearing through hearing aids, and the manner in which signals may be coded, both visually and tactually. Also under consideration is the relation of linguistics to speech, that is, how vocabulary size, redundancy or the syntactical relations that govern a language may have bearing upon the amount of speech that is received or produced.

A popular question is: How good is the speech of the deaf? This question might be rephrased by asking: To what extent does the deaf talker impose a discrimination loss on his listener? We may turn to conventional clinical audiometry for some help in answering this question. There the question is asked: How well does the hearing-impaired listener discriminate normally-produced speech sounds? In assessing the speech of deaf children, we might turn this around, and impose a hearing loss, as it were, upon normal hearing listeners in asking them to discriminate speech sounds produced by deaf talkers. With such a measure of discrimination, it might then be possible to determine the improvement in speech made by deaf children from one year to the next, or over longer periods of time. We might also wish to examine the effect on discrimination that added visual cues might afford, as contrasted with auditory cues alone, in comparing discrimination scores when people listen only, or look-and-listen, to deaf talkers. These are only a few suggestions, and by no means represent an exhaustive list of the research possibilities in examining the speech of deaf persons.

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Dr. Raph mentioned a project in which a group of pre-adolescents were asked to write down as many ideas as they could relating to their work in speech, and noted that speech therapists stress the conscious, volitional aspects of the therapy situation. Perhaps different results and comments might emerge if the instructions were altered somewhat, and the same group, or a similar group of youngsters were asked to write down their ideas in *two* groups: one, a list of those comments that they liked to hear, or that they found pleasurable; the other, of those that they would rather not hear as often, or that made them feel uncomfortable. Some of the pleasurable comments, which may not have been included in the list presented by Dr. Raph, might yield information for the speech therapist as to what kind of statements to make that would have positive reinforcement values for a child, which would certainly maintain his interest in the therapy or learning situation, as well as those statements to be avoided.

The research in the area of psychology on motivation has not been very conclusive about what it is that governs motivated behavior, or of what it consists. There is strong debate among psychologists when motivation and learning are discussed in the light of psychodynamic theory. Those points which Dr. Raph feels have been supported by clinical judgment and observation (concerning unconscious determinants of motivated behavior) are perhaps equally as often noted by the teacher of the deaf in daily classroom activity. The teacher of the deaf need not be a clinical psychologist to understand and appreciate the fact that there may be underlying factors that are governing the personality structures of the children in her class; and what is more often the case, teachers have an ever-present awareness of, and sensitivity for, the emotional well-being of their children, in addition to their concern for academic progress and achievement in learning.

Many of Dr. Raph's comments have dealt with the interaction of the therapist and the speech-handicapped child, or have considered some of the more subtle determinants of behavior that are observed in the therapy situation. These children, despite their handicap in speech, do have normal (or near-normal) hearing, and are able to *receive* communicated language, whether directed toward them or toward others. With this in mind, we may be doing a disservice to the deaf child when we classify him with other physically handicapped children. Speech is one of the most important channels for social and emotional development. The young deaf child is virtually cut off from all communication that is auditory in nature, both receptive and expressive, and is thereby not as likely to be subject to the

subtleties of an overexposure to adults at too early an age, nor be as scarred emotionally from the concomitant verbal nuances of both words and inflections that may result from his many visits to diagnosticians, audiologists, pediatricians, etc., as might be the case with the speech-handicapped child. As a matter of fact, these visits and encounters are a *sine qua non* of the handicap of deafness, for the child who is deaf must be differentiated from other handicapped children in order that the most suitable and best possible educational procedures be recommended for him.

Furthermore, in educational practice with the deaf, voluntary action and conscious control on the part of the deaf child is an indispensable requirement; he must watch his teacher's lips, and must be aware of what other children in his class are doing, in order that he may gain from these new experiences and relate them to what he has already learned. This is probably a reflection of why the research interests in the area of the education of the deaf have focused attention upon such aspects of conscious control of activity as speech intelligibility and production, and have not favored as much the investigation of some of the more subtle motivational factors in the behavior of the deaf.

In teaching speech to the deaf, especially since we have committed ourselves to the multisensory approach, there remains little alternative but to maintain the direct methods which are being employed. Research activity in this area could well look for better ways to exploit the existing sensory potentials —auditory, visual, tactual, autokinetic, and so on.

By no means should the concept of play therapy and its connotations be ruled out from the teaching of speech to the deaf. Teachers know and use many interesting and pleasurable techniques and aids (every teacher has her own bag of tricks) in teaching speech to the deaf, and it would be surprising to hear of a teacher who only said: "Work hard. Say it this way. Think of what you are doing. Practice!" Consider rather the teacher who further says: "Fine job! Good work! You said that sound right, all by yourself!" Positive reinforcement in such teaching, coupled with patience, praise and a smiling face, is indeed good therapeutic practice, whether a child is beset with underlying emotional problems or not.

It is probably true that children in general tend to use their physical handicap as a psychological weapon, but I doubt very much if this may be said to be characteristic of most deaf children. Play therapy may be an effective means for leading out self-realization and independence, and better speech in a subtle manner for the speech-handicapped child; but, I cannot see how it can hope to replace for deaf children, that major function that they never have had, which must be consciously and arduously acquired; and that is the capacity for language, visually (and to some extent auditorily) received, and orally expressed.

SISTER ROSE ANTONIA

Sister Rose Antonia is a member of the faculty at St. Joseph Institute for the Deaf, St. Louis.

In her most stimulating and informative paper, Dr. Raph's choice of issues in the teaching of speech, correlates of special help with particular reference to the preschool age child and some determinants of motivation as these pertain to the school age child, was a wise one, for these are issues with which both teachers of the deaf and speech therapists are concerned.

Mentioning the stress put upon the correlates of early identification of the speech impairment (or deafness), the early training it necessitates and the guidance of the child and his special program by a team of experts led Dr. Raph to a consideration of the corresponding hazards which accompany these tremendous benefits.

Whatever interferes with the normalcy of activities in the age range two to six takes its greatest toll in the personality development of the child. That is the first hazard. Let us consider this. What is the normal activity of a child in this age range? Play, is it not? Does school, that is, speech school, interfere with this activity? We think not, for our school program, our classes with children of preschool age are geared to capitalize on the child's interests and activities. Therefore, speech *seems* play to the preschool age child; it is organized play. The teacher has so organized her speech program that the child is developing speech skills in the process of constructive play activity, from which activity he is removed only three times for speech lessons of ten minutes each. In these speech lessons the atmosphere remains relaxed and informal with a pretense at play; it is in this way that a deaf child initially learns speech, with great success, we have found.

Another hazard involved in the correlate of early training is that the number of adult relationships might become overwhelming to the child.

Here is the situation that exists in our school.

A child at the preschool age of four enters school and finds himself involved in many new adult relationships. But this does not prove traumatic or soul-searing, because the most important adult relationship to which this child is exposed is that of his teacher.

(The importance of this relationship stems from the time element involved, as well as the influence that is exerted.) The teacher is aware of the importance of this relationship and consciously strives to satisfy the physical and psychological needs of the child as well as his mental needs. Our teacher of beginning speech is highly successful in establishing and maintaining most satisfying and fruitful relationships with her pupils, and is so well able to provide for their needs that many identify with her as they would with their mothers.

In our school other adult relationships which touch a beginning pupil's life would be those of house mothers or helpers in the classroom. Neither of these relationships prove overwhelming for our children; perhaps because their contact with these adults is always a scheduled and routine one, which brings more of a sense of security and safety than one of uneasiness or fear.

Another thought as to why the multiplicity of adult relationships experienced by deaf children who are beginning school does not prove overwhelming is that in the initial adjustment to these relationships one deaf child does not stand alone; he stands with several other deaf children who are likewise meeting and experiencing these relationships for the first time.

Hazardous, indeed, would be the young child's inability to differentiate between inadequate or incorrect speech, and his being inadequate. How often do we teachers of the deaf encounter such a situation?

In a therapeutic situation the premium of time greatly limits the results the speech therapist might otherwise have expected if she had unlimited time. This premium of time could create a stress situation evolving from the eagerness and concern of the therapist that she attain the greatest possible results for her pupil in the shortest possible time.

This is not so apt to happen in the learning of a deaf child whose daily progress, in a school particularly, is absorbed and saturated with speech.

With teachers of the deaf and speech therapists constant correction of the pupil's speech may lead to a child's feeling of inadequacy. Constant correction is somewhat of a necessity in a therapeutic situation in which incorrect speech patterns must be broken down. Constant correction is likely to happen when a teacher has older deaf children whose beginning school environment was not completely oral, or whose beginning speech teacher had an imperfect ear and habits of instruction that did not produce intelligible speech. Such children require speech correction; such children are apt to feel inadequate, especially as they may have thought their speech satisfactory and effective until this time.

To offset any feelings of inadequacy that may or could arise with children in beginning or advanced speech, it is the policy of our school to use a positive approach at all times. Thus, any success, however small, is highlighted; any success, however small, is rewarded. This success then provides motivation and encourages the child to expend additional effort toward attaining other goals.

We try to set reasonable goals, goals within the reach of the child. When our child reaches one goal, we set another goal, a little higher, but one still within reach. In this way the child reaches his goal and tastes success. Tasting success generates motivation which makes for an attentive, interested, well-adjusted speech pupil who learns.

Interference with the child's proper development of social modalities is another area which Dr. Raph feels is affected by early training. To quote, "Both tasks (*autonomy*, i.e., those of experiencing growing powers of achievement and initiative, and *initiative*, i.e., greater freedom to explore and experiment) are less easily achieved if a child's speech and language are preventing the rich interchange of ideas and information children reach for so eagerly in the preschool years." Is not this statement in itself a reason favoring early education? Early education *provides* the wealth of speech and language necessary to rich interchange of ideas and information. Therein lies the gain, the good to be found in early education. As Dr. Raph mentioned, "It is inevitable that advancement along any frontier of knowledge create new dangers in the wake of removing old ones." In any good to be accomplished there is sacrifice and loss. Before starting any endeavor we weigh the gain against the loss; if the gain outweigh the loss, we go ahead. Does the gain not outweigh the loss in early education?

In considering social modalities and the fact that a handicapped child's early training might prevent the normal development of social modalities, we, at St. Joseph's, find no loss, rather gain. Our children are advanced in social modalities. No child is more independent than the youngest child in the school; although in the dormitory, in the dining room, assistance is readily available to him, he scorns it. Occasionally he permits it, but only when it is absolutely necessary.

What fosters this spirit of independence? A new pupil looks around and sees other older children operating independently, quite successfully, so he decides to take the same path. It is open to him, for boarding school environments seldom foster the unhealthy dependencies that we sometimes find in handicapped children.

By the time this independent "baby" reaches the middle and upper schools, he has acquired enough communication skill to be capable of

handling the usual social situations most graciously. He has acquired social poise and has become travel-wise.

It is my idea that successful speech teachers are cognizant of these hazards and pitfalls which lie along their path. Their awareness of them provides preparation and insight thereby lessening the hazards that we have been considering.

A successful speech teacher is one who does not work only with voice apparatus of the child; rather she is one who works with the extremely complicated and highly integrated machine of the whole child. In doing this she prevents many of the hazards that have been discussed and she also provides for motivation, the second issue with which Dr. Raph concerned us.

Lack of time does not permit us to dwell on the second issue but we cannot conclude our discussion without a cursory treatment of it. In Dr. Raph's own words, "The central theme in regard to motivation with which she deals is the concept of unconscious determinants of behavior." Her comprehensive and concise explanation of how achievement motives are assessed, followed by her short precis on the results of studies dealing with the origin of these achievement motives, was both enlightening and encouraging. She clearly defined a matter which vitally concerns each and everyone of us, viz, unconscious motivation. She has helped us realize that although the success or failure of the child is in our hands, it is not completely so. And most of all, Dr. Raph has helped us to realize that if we would teach any child successfully, we should become aware of the unconscious motives which operate in the lives of the children we teach. In doing this we will "discover productive possibilities for a better understanding of human behavior and for facilitating the teaching-learning process."

CORNELIUS P. GOETZINGER

Dr. Goetzinger is professor of speech and hearing at the University of Kansas Medical Center, Kansas City, Kan.

Dr. Raph has brought sharply into focus some of the hazards which might accompaniy the modern total approach method of diagnosis and treatment of the speech handicapped child. Her cautions are equally as timely to educators and specialists in the area of the hearing handicapped. Those of us who are members of teams cannot help but be cognizant of the assembly-line like procedures which per force all too often exist in diagnostic and therapy centers. That such an overwhelming multiplicity of adult contacts and associations may have dire emotional consequences for the parents, already overwrought, as well as for the child, is apparent to anyone who is a link in the chain.

Although the risk of such hazards is, to a certain extent, inherent in the team approach, beset as most centers are with compounded case loads and overworked staffs, nevertheless, at times, certain more favorable procedures can be arranged to minimize the dangers. At the University of Kansas Children's Rehabilitation Unit it is the policy to defer or spread out over a period of time the diagnostic battery, as well as therapy requiring multiple adult contacts, when it appears to be needed. More specifically, after the initial or intake interview and an examination by one member of the staff the child is assigned for observation in either an individual or group situation, whatever appears to be the better choice in terms of the child and his parents. It is only after the child, as well as the parents, has become adjusted to the new surroundings (and this period of adjustment may extend over a period of several weeks) that other members of the team are gradually introduced. Fortunately, in our particular physical setting, team members, when not located in the building, are only a few minutes walk from the Children's Rehabilitation Center so that it is not necessary to remove the child from his familiar setting for subsequent examinations. Thus, the child and parents are exposed gradually to a team approach.

After the medical consultation the parents are assigned to a member of the team for guidance and council. This specialist, now fortified with the recommendations of the team, is always the director of the educational area in which the child is to be placed. Parents are encouraged to participate in the program in which their child is enrolled. For example, in the preschool program for deaf children, parents assist the teachers by carrying out a planned home program. In addition, parents are encouraged to remain at the center for all sessions during the initial weeks of the program, not only to observe and learn about their child, but also to be close at hand in a supportive roll. Parents also participate in a parent study group conducted by the staff.

To say that this procedure obviates all problems would indeed be presumptuous. Not infrequently, overzealous parents, as pointed out by Dr. Raph, lose sight of the ultimate objective, and concentrate on the child's handicap. Perhaps, one reason for overzealousness on the part of parents of deaf children stems from the injudicious claims associated with the early use of hearing aids by quasi-professionals, which frequently appear in print. I might state categorically that there is not a member of this convention who would not advocate the earliest possible use of hearing aids with deaf children. The advantages of

their use with deaf children at an early age have been copiously demonstrated. However, claims which suggest to the parents that their children will eventually function normally through the ear as a result of early auditory stimulation by means of a hearing aid are not in accord with facts. Such misguided optimism may well be the basis for negative exhortation and evaluation on the part of the parent and teacher alike in their desire to educate the child to hear.

Another area of potential danger, as discussed by Dr. Raph, pertains to the development of autonomy and initiative within the handicapped child. If the child's defect prevents the copious verbal interchange necessary for social development, the concerted effort by teachers and parents to impart the needed skills may conflict with the child's basic impulses, and thus retard rather than produce progress.

As Dr. Raph has noted, parents and professional workers are on the whole cognizant of these dangers and make every effort to "supply the child with an atmosphere of warmth, supporting affection, and relative freedom when instruction of any kind at an early age is necessary." Over-dependence, nevertheless, must be guarded against as it is latent by virtue of the handicap. Pertinent, however, to this particular point is a recent article by Dr. Beatrice Wright in the November, 1959 issue of the *Journal of Exceptional Children*.

Dr. Wright maintains that dependency, though not usually regarded as a desirable end in itself, nevertheless is now viewed by psycho-analytic and other theories as a means to emotional security and eventually greater independence. She goes on to say that dependency is a commendable value and is essential in many inter-personal relations. "People, for instance, should be able to rely on others, to ask for and accept help, to delegate responsibility, but these relations occur naturally only when the person has learned how to become dependent." Dependency is not necessarily the antithesis of independency. In other words, we should possess both.

With reference to overprotectiveness, Dr. Wright points out that the culture, the times, socio-economic class, and the person doing the evaluation will all markedly influence its interpretation. It was clear from her extensive review and analysis of the literature that overprotectiveness by the parents neither always effects dire consequences in children, nor is it an inevitable result of guilt and rejection. When overprotection is accompanied by love and not rejection, children appear friendly, cheerful, humorous and free from aggression.

In developing the independence-dependence balance, research has indicated that neither punishing nor ignoring a child's dependency is effective, but rather a warm, not effusive, manner toward his timorous strivings for independence.

That the failure to achieve may be related to unconscious determinants of behavior, and not to voluntary acts, abilities and skills is admirably discussed by Dr. Raph. In such cases the usual drills, admonitions and learning rewards may not be of value. A better understanding on the part of the teacher of the influence of unconscious dynamics upon behavior may facilitate the learning process.

Dr. Raph's suggestions are particularly important with reference to deaf children. Here the problem is compounded because of their restricted language development and the sparsity of adequate research tools for studying the behavorial dynamics of the deaf. Irrespective of these drawbacks, there have been studies which suggest that more information can be obtained from projective techniques with deaf adolescents regardless of language problem, than perhaps is generally thought.

Some years ago in California the discussant in collaboration with two psychologists from the University of California administered a battery of tests, including the Rorschach, TAT, and Bender-Gestalt, to a group of deaf adolescents. The results were encouraging and suggested that with modifications, their use could supply much information. At the present time, we are administering to deaf adolescents in the Kansas School a battery of tests which includes the full scale WAIS, the 1938 Raven's, the three administrations of the Benton Visual Retention Test, the Draw-a-Person, MMPI, selected pictures from the TAT, and the S. O. Rorschach.

This discussant is fully in accord with the views and suggestions as expressed by Dr. Raph.

D. ROBERT FRISINA

Dr. Frisina is director of the hearing and speech center at Gallaudet College, Washington, D. C.

Dr. Raph has presented an interesting array of problems and issues that face us in the teaching of speech to handicapped children. My responsibility as a member of this panel is to view these problems from the standpoint of a supervisor of a speech program for deaf children. The assumption is made that such a person is charged with the responsibility of stimulating his staff to evolve a theory or philosophy of the development of speech in the deaf child, of establishing goals and developing approaches for the attainment of such goals. Asking the proper questions and redefining goals as new sets of information become available are basic to carrying out these responsibilities.

For purposes of discussion it seems that the issues raised in Dr. Raph's paper can be meaningfully categorized under the following headings: (1) the child as a child, (2) the child as a deaf child, (3) the parent as a parent and the parent as a parent of a deaf child and (4) the role of the teacher.

The concept of the child as a child includes what Dr. Raph has referred to as an interdisciplinary approach to communication disorders. It implies that other areas of specialty have something to contribute to the management of programs dealing with children. For example, one of the most significant alterations in the education of the deaf in general and teaching of speech in particular has resulted from the developments in the field of electronics. Modern hearing aids of the wearable and group types have contributed to the speech proficiency of the deaf to a great degree. It behooves the supervisor of a speech program to integrate other related useful research findings of other areas of specialization into his own.

The relationship between the typical and the atypical is also included in understanding the child as a child. It seems, however, that certain gaps exist when the deaf child is compared with the hearing. That is, the role that hearing plays in the organization of behavior has not been well-defined, and the relationship between hearing and the manner in which a child becomes "culturized" needs more study. It seems that hearing plays a dominant part in the development of prejudice and bias. The attenuation of the nuances and subtleties of language and the inflections in speech might conceivably be reflected in the personality development of the deaf. The supervisor of the speech program would do well to interest various specialists in directing their attention to such gap areas.

The concept of the child as a deaf child includes what has been referred to as the need for early detection, identification, early training and guidance of a team whose members pool their opinions. In addition to accurate diagnostic evaluation, this involves the need for knowledge of what needs to be done for the deaf child *when* and by *whom*. Further, it is important that close interaction of team members does not result in loss of identity of the individual specialists, nor does the group participation serve simply to allay certain insecurities of its members. It is also important to mention that cross-sectional studies have characterized research with the deaf. In spite of the inherent difficulties in design and control, longitudinal studies would be helpful in clarifying the development of personality, intellectual functioning, educational progress and sociological implications of early profound deafness.

It was stated that the years from two to six are the peak years for language learning and the development of personality. This might very well be the case in speech development. There might be optimum times for various kinds of stimulation. Too little research is available with the deaf in this regard. The great lag in speech and language of the deaf child is emphasized when one considers that by the age of two and one-half years the hearing child has the structure of English well in hand. His vocabulary grows abundantly until after some six years of listening experience he begins to develop a visual verbal symbol system (reading). The deaf child, on the other hand, is subject to much ambiguity in interpersonal relations because of his need to transpose auditory symbols into visual verbal symbols at an early age and prior to his development of the structure of English.

The danger of imposing other penalties on the developing child when the handicap is stressed has been suggested by Dr. Raph. The parent, as a parent and as a parent of a deaf child, requires assistance in the acceptance and attitudes toward the deaf youngster. Care should be taken to prevent the parents from becoming teachers, the teachers from becoming parents and the child from becoming confused.

The teacher's role in assisting children to achieve autonomy and initiative has direct application in the teaching of speech to deaf children. The danger of fostering overdependence must also be kept in mind, particularly since the handicap of deafness requires that environmental contacts be established through vision which is directional in nature. Hearing is omnidirectional and allows for incidental learning; whereas, in sharp contrast, the learning of language and speech in the deaf child must perforce be highly volitional and conscious. The suggestions to teachers concerning psychodynamic factors in learning problems should be seriously evaluated by the program supervisor. Although the general field of psychology is not completely satisfied with its theories of personality and instruments for evaluating such theories, we should continue to look for help in understanding the atypical deaf child as well as the typical.

In summary, the supervisor's primary responsibilities include categorization of present knowledge in several fields to the teaching of speech to the deaf. For purposes of organizing and planning, it might be helpful to consider the child as a child, the child as a deaf child, the parent and the teacher. These imply relationships among related and seemingly unrelated disciplines, the typical and the atypical child, the parents' roles as parents and their roles as parents of deaf children and, finally, the involvement and yet the necessary objectivity of the teacher.

Speech II Monday P.M.

Where Are We Going?

Chairman: Audrey Ann Simmons, Director of Aural Rehabilitation Department, Central Institute for the Deaf, St. Louis

Panel of Discussants: Dr. June Miller, Dr. Louis DiCarlo and Dr. Kenneth Mangan

Experimental Phonetics

JOHN W. BLACK

WHAT EXPERIMENTAL PHONETICS HAS TO OFFER THE TEACHER OF THE DEAF

Dr. Black is director of speech sciences at Ohio State University, Columbus, Ohio.

Experimental phonetics is involved with such topics as: the physiology and neurology of speech production and hearing, the physical stimulus, and the phonetic and semantic characteristics of the speech signal. Of primary importance to the teacher of the deaf, experimental phonetics provides techniques which can reinforce the student's response. Learning the use of language on the part of the deaf is dependent on a schedule of reinforcement in the learning process, and a set of signs that can be reinforced. Neither without the other can lead to a successful learning experience. My emphasis on the role of a tangible display of the student's oral response derives from my current interest in self-administered procedures in speech and hearing. Developments toward this objective rely on the student's experiencing a vivid portrayal of a vital aspect of his response and receiving appropriate reinforcement coincident with the experience. Such displays of oral responses arise from the techniques and outcomes of experimental phonetics.

Of secondary importance, experimental phonetics can provide the teacher with an understanding of the signal-system of speech, and insight into the code of speech.

Experimental phonetics can provide certain physical displays of speech around which reinforcement of a student's responses can be scheduled. We do not have as many of these displays as are needed. The available ones include the following: (a) The intensity of the speech signal can be shown as an instantaneous peak value, as a series of values at spaced intervals or as a continuous function of time. The first is easily made the object of reinforcement. The continuous record, on the other hand, while more difficult to achieve than the instantaneous one and useful and valuable in leading the teacher to an understanding of speech, hardly provides a useful display around which reinforcement can be scheduled. The complexity of the record and the diffusiveness of the information that is portrayed clutters the feedback experience of the student and makes it difficult for him to associate any reinforcement with a particular discrimination.

(b) The spectrum of a speech signal can be displayed and can be used with techniques of immediate reinforcement. This spectrum, unresolved and simply represented by oscillographic portrayals of sound waves of sustained vowels, was used by Goldstein 30 years ago as a display around which a child's verbal responses could be reinforced. More recently the resolution of the speech spectrum has been achieved and the instantaneous display of visible speech has been, and continues to be, used as a sign that can be reinforced. Delayed displays are useful in giving the teacher insight into the frequency complex of the speech signal but hardly serviceable in the day-to-day classroom teaching of speech for the deaf. Delayed displays may provide the teacher with confirming check points of a child's progress.

The foregoing instances of noteworthy contributions of experimental phonetics to the teaching of the deaf cannot be matched in connection with all of the attributes of voice. (c) The patterns of pitch of American speech have not been well established, nor has their importance. This statement relies upon an association of experimental phonetics and quantitative results and techniques for displaying the features of the acoustic signal. A system of marking the intonation of English sentences has been evolved in linguistics, and is in use, particularly for instructing foreigners in the intonation of American English. The system assigns four levels of pitch to American intonation. That system hardly fits the criteria of the present discussion either for establishing the patterns of intonation of English or displaying the pitch patterns of oral responses on some instantaneous read-out mechanism. Successive developments, at least from Seashore's Tonoscope of half a century ago, have brought us closer and closer to an immediate portrayal of American intonation. None, however, has provided a suitable display around which to program reinforcement

of the child's oral responses. Nor, again, has experimental phonetics produced satisfactory data of the relevance of intonation to either American-like or intelligible speech. Thus, in spite of painstaking and important work over a span of 60 years, work that has established the pitch-behavior of actors, and in spite of much material that carries notations of heard pitches along with the material that was spoken, the teachers of the deaf have neither the evidence from which to gain insight into the importance of intonation nor the equipment to yield a suitable display of pitch behavior. Approaches that are being made to Dutch speech are hopeful. There, a study of the intonation of casual speech is in process. Also, the equipment is described as being capable of giving an immediate and legible record of intonation.

(d) The existing situation regarding pitch is also evident in connection with aspects of the rate of speech. Features of speech on which teachers of the deaf have reason to focus attention include words per unit time, syllables per unit time, pauses in the stream of speech, disproportionate allocations of time to particular phonemes in a word. These may change from moment to moment during speech; hence, the teacher must expect to work within a range of values. Experimental phoneticians have studied topics of rate from the very first time a kymograph was used in connection with speech production. The results are in timed phonemes, timed syllables, words, phrases and timed pauses, and means and standard deviations of each; also, in the relative rates of preferred and non-preferred speakers as judged from hearing a short passage; also, in the intelligibility of words said at different speeds. The mass of accumulated data can help the teacher gain an insight into the rate-aspects of speech. There is not, however, an instrument that yields a display around which a teacher can schedule reinforcement for the child who is talking. This display might evoke negative reinforcement for the overly-slow speech of some deaf children, and for the lack of variability in the rate. By implication I am suggesting that the metronome and the baton have elicited faulty patterns of rate and that experimental phonetics has not turned up a suitable antidote.

The foregoing resumé leaves the teacher of the deaf indebted to experimental phonetics for insight into the nature of the acoustic signal of speech that he is to evoke. This, however, in the view of the present discussions is of secondary importance. Basically, the fact emerges that the teacher of the deaf is a particularly special instance in his demands for applied experimental phonetics. The material that he needs is not available in the form that he needs it; nor is adequate instrumentation available to permit him to apply contemporary psychology of learning to his teaching of speech. In large part, I suspect that the dearth of material and equipment for the teacher of the deaf arises from his failure to ask the right questions of the experimental phonetician during the last many years.

A second major impact that experimental phonetics holds for the teacher of the deaf lies in the concept of intelligibility. The intelligible signal is an objective in speaking; it is also quantifiable, capable of being measured. Intelligibility as a concept can be applied to individual phonemes, to words, or to sentences. It can be also applied equally well to the talker or the listener, and simply through changing one's referent, can be applied to speechreading instead of the acoustic speech signal.

Experimental phonetics holds a plethora of information concerning intelligibility for the teacher of the deaf: (a) intelligibility is relative, not absolute; (b) phonemes vary relative to each other in intelligibility; (c) the intelligibility of a nonsense syllable can be predicted from the joint probability of the intelligibility of member phonemes; (d) word intelligibility is particularly related to the intelligibility of consonants; (e) word intelligibility is related to word length in sounds and syllables and to the frequency of occurrence of the word in language; (f) intelligibility is closely associated with signal strength; (g) for normal talkers and listeners intelligibility of syllables and words is equally dependent on frequencies above and below 1200-1500 cps; (h) as an average for a given set of words the intelligibility of a word is equivalent to the joint intelligibility (probability) of two phonemes; (i) for normal talkers and listeners the most frequent error response in the reception of words, the second most frequent, the third, fourth, and fifth bear a constant relationship to each other and to the intelligibility of the stimulus word, etc.

These topics are important in the making of an informed and insightful teacher; they may lead to but few, if any, classroom practices that the teacher would not have developed intuitively. There is, however, or should be, opportunity for the teacher to exploit intelligibility testing in the classroom and under circumstances that yield reinforcement of the student's oral responses.

On an adult level and with normal hearing students I have approached reinforcement in the instance of intelligibility in the following manner. A student reads an intelligibility test. Listeners individually mark on multiple-choice answer forms the words that are heard; the reader collects carbon copies of the responses on forms that show both the correct and the incorrect responses. Students respond to the negative reinforcement of error responses, particularly ones made by several listeners, by

trying a different manner of reading, subsequently. An invariable outcome of a series of nine tests during a term is improved scores. Other causal factors are not ruled out.

New chemically treated papers and teaching machines point up the possibility that the teacher of the deaf should be able to exploit the potential for reinforcement of a student's oral response that is inherent in the concept of intelligibility and the exercise of intelligibility measurement.

3. A third contribution of experimental phonetics to teachers of the deaf lies in the realm of the statistics of language. More specifically, I have in mind matters of probability in language. The teacher gets oriented to this topic through the several tabulations of vocabulary that have been made. He may treat these as first-order approximations to language and then establish higher order approximations; he may study the established ratios of language, as the type-token ratio; study the relative frequency of speech sounds; test the laws that predict the probability of successively rarer words in English; he may study information and redundancy by the techniques of information theory. Again, the primary contribution of experimental phonetics to the teacher of the deaf should relate directly to the classroom, not merely to the education of the teacher.

Fortunately, the teacher of the deaf can turn aspects of probability in language into classroom responses that can be accompanied by immediate reinforcement. For example, Shannon worked in the area of research with subjects predicting successive letters of pre-cast sentences. The teacher can take over this procedure intact as an exercise of letter guessing, i.e., an exercise in the probability of words in standard English sentences. Immediate results and reinforcement are possible; group participation is feasible; pre-set sentences can be arranged with chemically treated paper to permit homework.

In summary, three contributions of experimental phonetics to the teacher of the deaf have been discussed. These are far from exhaustive. For example, no mention has been made of the importance of side-tone or auditory feedback, nor of the importance of the inherent disparity between the signal of side-tone and the same signal to an outside observer. No mention has been made of the importance of systematic representations of voice communication that point to the analysis and lawfulness of phenomena of speech. However, the three features that have been discussed serve to illustrate the premises of this paper: (a) the facts gleaned through experimental phonetics may serve to give insight into speech communication to the teacher of the deaf; but, (b) the primary contributions of experimental phonetics lie in the displays of a deaf student's speech to himself—displays that permit the immediate reinforcement of the speaker and hasten his learning of oral language. This demand upon experimental phonetics is new. Consequently the procedures, the equipment, and even the basic information are not adequately available to the teacher of the deaf. In the proportion that the demand is pressed the answers may be expected.

Speech and the Preschool Child

JUNE MILLER

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The purpose of any speech program regardless of the age of the child is to develop oral communication that is enjoyable and of value to the child. The speech utterances should be easily produced, and intelligible to the listener. More importantly, they should express what the child wants to say and should permit intelligent expression of the child's feelings, thoughts and needs.

To carry out a good speech program we need to set goals for ourselves. First we must develop an atmosphere that is conducive to good oral communication. We want the child to feel a personal need to express himself in understandable language and speech. His speech and language should be appropriate to the age level, if possible. We must encourage and praise, not only the preschooler's attempts at speech, but we must continue to praise and reinforce the child's efforts at communication during his entire school life. For example, I have found that to tell a child, "That's pretty good; let's try it again and see if we can't do even better," gets much better results than to say, "No, that is wrong; do it this way." It is also helpful if we smile a bit more rather than look so serious. Teaching a hearing handicapped child to speak is a serious business, but we should enjoy doing it and let the child know we enjoy it.

As well as creating a warm and comfortable atmosphere within the classroom, we need to reach another goal, which is to know as much as possible about each child. Having this information in the school file or superintendent's office is not enough; it must be a part of the everyday knowledge of each teacher. We should know the cause and time of onset of the child's hearing problem. We should know the type of hearing loss curve, the degree of hearing loss, other illnesses he may have had that have created additional problems. We should know how the child is functioning on performance tests of intelligence. We should know about the family and the

community where he has spent his first few years and about his social growth; intelligence quotient and social quotient scores are not enough. We need to know the details of how the child functioned on various parts of the tests administered and perhaps something of the rapport he had with the various examiners. We then will be in a better position to help set various goals for each child and not the same goals for all students in the classroom.

Another goal for each teacher is to listen to the expressions and speech of two-, three-, four-, five-, and six-year-old children with normal hearing. Read some of the studies concerning the language growth and development of children with normal hearing. After you have had a few years' experience in teaching, you will find that this material will be most helpful in setting language goals for your children.

Today it is a well-known fact that comprehension precedes expression in all areas of learning. Even the adult learning a foreign language retains best that which he has an opportunity to learn in a meaningful situation rather than in a stilted formal manner. Then, in order to develop the best speech possible, we need comprehension before we attempt expression; we need to pour in, pour in, and pour in speech and language at the child's level of interest, regardless of whether he is a beginning three-, four-, five-, six- or seven-year-old. We need to know the things that are interesting to the child. What does he want to say? He may need such expressions as, "That's mine." "Move over." "Don't push." "Stop it." "Come here." "I want some water." We must present opportunities again and again for the child to learn language which he wants to use or which enables him to express his feelings. Follow the child out to the playground or dining room, watch him at recess, watch him in the playroom, as you work with him, and try to ascertain what it is he wishes to say. Then give him the words or expressions he needs.

Several years ago we ran a little research project asking the parents what words they would like their child to be able to say first. It was very interesting that out of the first twenty words, mama, daddy, no, yes, potty and hot were requested the most consistently. The remainder of the words on the lists were the names of relatives and friends. In carrying on a similar type of investigation with teachers, it was interesting that again mama, daddy, no, yes were listed first; followed by home, bow, top, shoes, fish and baby. These latter words might have been appropriate if they were toys that the children were interested in playing with or if a child had new shoes or a new hair bow, etc. However, it was interesting that not a child in the group had a bow on his or her shoes, dress, skirt, hat or hair. It is so very necessary to look at the specific needs of the child. What is it he wants to say? This group described was much more interested in nail polish, a new barette, a belt buckle that had a gun on it, and some candy. This group of children wanted a vocabulary to talk about these things.

When we talk about speech, we also talk about voice quality, enunciation, pronunciation, rhythm, intonation patterns, etc. How do we begin, to get the best voice quality and maintain it? If we listen to the child as he babbles and plays, we begin to find out where his natural voice is. We will notice the quality of his voice. Usually it is not nearly as nasal or strained as when we try to develop it through artificial means. Helping a child keep a pleasant voice is easier than correcting an unpleasant one. We start to develop enunciation when we listen to his babbling. We find out that he is babbling many of the sounds that are difficult for us to get him to say in an artificial manner. Those of you here know that the sound of *g* and *k* are exceedingly hard to develop. As we listen to children babble and record their babbling, we find that many of the children are babbling these difficult sounds. In our preschool we have tried to take advantage of the children's babbling. Every time we hear a child babble a sound we try to associate it with a word or expression. For example, as he babbles, "g, g, g," we try to associate this with the word *gum* or *gun* and say that word back to him. This can be followed through with many of the speech sounds. Pronunciation and rhythm are incorporated as soon as a child wants to express himself in two or more syllables, for example: *mama, daddy, baby,* or *bye-bye.* With the use of any two-syllable words or expressions we are ready to introduce and work on accent and intonation patterns. We should try to get better rhythm patterns. Time and again we need to go back and listen to the child with normal hearing and normal speech to see how he expresses himself. We need to check time and again our own enunciation, pronunciation and rhythm. Be sure we are not saying "apPLE" but "apple," that we are saying "airplane" and not airPLANE." We become so intent in trying to help the child articulate clearly that we forget and overemphasize a word or a syllable and put the accent in the wrong place or prolong the vowel. As we listen to the adult who is deaf, one of the things that makes him difficult to understand is improper rhythm or pronunciation. This is particularly true in new words that he has learned after leaving school. The use of residual hearing through auditory training units, monaural aids and, where possible, binaural aids, will also help the child with enunciation, pronunciation, intonation patterns and rhythm.

Let him help himself by watching our articulation as well as his own. But we as teachers must be very careful that we do not over-articulate. For instance, with the sound of *b*, sometimes we bite the lips in saying *bye-bye*. However, when we get out of the classroom and are talking to our friends, do we still say *bye-bye* with our lips pressed very tightly? Probably not. It has been suggested by a number of people that we put a mirror up behind the child and use this is a monitor for our speech. Have you ever caught a peek at yourself as you over-articulate? We all know that it is much harder to speechread if we over-articulate, but I do not think we have put enough emphasis on the fact that it is hard to learn speech if someone is over-articulating or distorting the patterns too much.

It has been interesting to me in working with adults who have lost their larynx because of cancer to hear their speech become more intelligible. These people, of course, had speech before surgery. During re-training they continue to articulate their sounds the same as they have always done. However, when they first develop their new voices the amount of air is very small and they can say only one or two syllables. This changes the rhythm of their speech as well as intonation pattern and thereby reduces intelligibility. Many times it is more difficult for them than it is for our children to differentiate between a breath sound and a voice sound. Nevertheless, once we can help reorganize their rhythm patterns, even though they are talking in very short phrases their speech once again becomes understandable.

It seems, therefore, that if we can help deaf children develop better rhythm patterns from the very beginning of speech development, we will have started the young child off on a good road to speech that is intelligible to the listener.

In summary, then, we want (1) to create an atmosphere in the classroom, home, dormitory and playground that is conducive to good oral communication; (2) to set goals for each child that are possible for him to achieve in light of his total problem; (3) to pour in as much language as possible (this language should be the kind the children would like to have in order to express themselves); (4) to develop as good voice quality as possible (this involves listening for natural voice placement); (5) to take advantage of the articulation that they do in their babbling; (6) to start from the beginning of the use of two-syllable words to develop correct pronunciation, making sure we give the proper value to each sound; (7) to work toward a rhythmical pattern and to see that this pattern is as close to the rhythm pattern of American-speaking people as possible; and (8) last but not least, to develop the kind of speech that those outside of his family and outside of the classroom can understand when it is used in meaningful situations.

Speech and Communication for the Deaf

LOUIS M. DICARLO

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The last decade has been characterized by prolific and creative research in audition theory. Practical research in the education and rehabilitation of the deaf, especially in the teaching and development of speech, has not continued with the same spirit of objectivity. There has been less emphasis on an examination of crucial issues and an exhaustive, rigorously controlled evaluation of speech development has become a critical imperative. Research in the evaluation of methodology presents a paramount need.

Fairbanks[3] constructed a model of the speech mechanism as a servo system reflecting specific relationships between input and output events and hypothesized the auditory mechanism as a corrective device in stabilizing and minimizing error. Skinner[19] described the basic communication unit of analysis as the verbal operant, and developed the construct of the relationships between stimulus variables and verbal responses. The total communication process begins with, is enhanced, or debilitated by differential social reinforcement from other members of the speech community. He attempted to formalize his constructs within the framework of a single-stage model, but some theoretical difficulties exist which reduce the efficacy of the model.

McCarthy[12] suggested that Osgood's theory of communication with his elaboration of the hierarchies of neural integration, decoding, association, and encoding processes, and inclusion of different modalities might be extended to research with the deaf.

Mowrer[14] analyzed language learning within the structure of psychoanalytical identification and modern learning theories. He found identification with important people in the child's environment and the extension of modern learning principles facilitated and expedited the specific communication modality the child would eventually develop. An attempt to integrate these constructs into a framework reveals that, to the present time, the deaf lack a consistent theory. Furthermore, the kind of communication environment will determine the method of communication the child will employ. The development of communication proceeds on a timetable continuum. If the child's need for speech is not met at the optimum learning period, conditions for learning

speech may disappear and may not be re-established at a later date. Such a hypothesis would suggest that a deaf child who does not attempt communication by verbalization by the age of two-and-half or three may find himself quite handicapped and resort to an overdependency on gestures. The prolongation of gestures for communication may permanently delay adequate speech production. The deaf child must develop a sense of speech communication at the unaware level if he is to develop speech as an adequate means of communication. Compromise at this stage can only contaminate the final result.

Speech requires an integration of a series of complicated processes. Intelligibility of speech depends upon a number of general and specific factors involving inflection, rhythm, word length, intensity and precision of articulation. Visual motor and conceptual processes contribute significantly in the development of speech for deaf children. Although few studies on visual motor perception for deaf children appeared before 1950, a number of studies revealed that deaf children function inferiorly to hearing children on tests requiring higher order abstraction.[16, 17]

Myklebust and Brutten[15] adminstered the Goodenough, the figure background, perseveration and pattern reproduction tests to hearing and deaf populations, and concluded that the deaf children were inferior to the hearing children in perception. On the basis of these findings, they constructed a theory of perceptual inadequacy of deaf children. This conclusion was surprising in view of McKay and Larr's[11, 13] studies, which found deaf children to be adequate as far as visual motor processes were concerned.

Hayes[4] replicated Myklebust and Brutten's experiments, utilizing the same materials and procedures, and his results supported the McKay and Larr data.

Although Rosenstein[18] evaluated the cognative ability of deaf children unmediated by language and found no differences between the performance by the deaf and the hearing children, his study raises some important questions. Since the perceptual discrimination tasks were visual and non-verbal, there is some question whether or not these generalizations apply at the verbal level. His study would suggest that differences in conceptualization, thinking and intelligence between deaf and hearing children are of degree rather than kind, but differences of degree certainly may involve quantitative differences of kind.

Another modality which the deaf may utilize in the development of speech is adequate use of residual hearing. DiCarlo[1] reviewed trends and applications of auditory training and indicated that if the child has not developed residual hearing to its maximum efficiency, auditory perceptual atrophy may occur and autocritical analysis may not develop.

Wedenberg[20] reported a training program for 36 preschool children with hearing impairments. The study is highly significant, since his results are truly spectacular. Children with 85-95 db losses develop 150 hearing word vocabularies and improved intelligibility within a nine-month period. He attributed results to early training and methodology and his goal devoted to residual hearing functional in a manner recreating "the natural synergy between hearing and vision — the unity of the senses."

In America, Hudgins[8, 9] has performed the most adequately controlled experiments. His results support other findings that profoundly deaf children profit from early training, especially with respect to increments in actual achievement. He did not find any improvement in intelligibility, and suggested that perhaps a study of the younger children may reveal more adequate information.

DiCarlo[2] investigated the effect of hearing one's own voice among children with impaired hearing. He had children read back material under different conditions of delayed feedback. Both groups of children exhibited striking changes in speech production. The speech of the children who had had a systematic program in auditory training was more disturbed than that of those who did not, and the intelligibility of the children's speech was greater. Auditory training provides sufficient evidence that the employment of hearing aids at an early age together with a systematic program of auditory training may help the refinement of the integrative process.

Hudgins[6] investigated the speech coordinations of deaf children. His extensive research provided a matrix of the basic differences between the speech breathing coordinations of deaf children. Hudgins and Numbers[7] completed the most comprehensive examination of the intelligibility of speech of the deaf and classified the errors under five vowel and seven consonant categories. They also found that in addition to the articulation, rhythm was the most important factor in the intelligibility of speech of the deaf. On the basis of his research Hudgins[5] developed a new systematic program for teaching speech to the deaf. To the present day no research has appeared evaluating the efficiency of the method. Hudgins[10] also found that motor rhythms provide the basic matrix for speech. He compared the motor rhythm of deaf and normal subjects. The deaf were equally proficient in the execution of simple movements and could give two-syllable coordinations without breaking down. When the task became more complicated in the production of complex motor rhythms, the deaf proved to be inferior to the hearing.

An analysis of the research indicates a number of suggested trends which educators may

pursue in teaching speech to the deaf:

1. Teaching speech to the deaf, even at the preschool level, must be preceded by the development of a sense for communication through verbalization prior to formal instruction.

2. Meticulous insistence on making the deaf child's speech exactingly specific should be questioned. In infancy hearing children do not always have specific language stimuli presented to them. This principle may be extended to the environment of the deaf, provided that speech is the only means of communication in that environment.

3. Speech development should integrate all aspects of the communication arts.

4. Early informal utilization of amplification becomes imperative, especially at the prelinguistic training level.

5. At this stage, development of auditory recognition, auditory memory span, auditory discrimination, auditory synthesis, auditory scanning and auditory recall become imperative. Proper speech material which provides child interest, child purpose and child motivation designed to meet emerging situations should be the guiding child development principle. The teaching of speech cannot be a subject, but a full-time activity from the cradle through the entire educational career.

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Speech Teaching for Older Children

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Some of the leading authorities in the field of teaching speech have indicated that the speech of deaf children becomes less intelligible as the pupils advance to higher classes. This decrease in intelligibility has frequently been called deterioration.[1] The apparent deterioration is more accurately a lack of progress which seems worse than it really is because of the following factors: (1) the increased difficulty in the vocabulary and sentence structure expected of older children; (2) the pupils' relative lack of familiarity with many of the words they use; (3) the complex articulation requirements for speaking more advanced words correctly; (4) the expectancy of the listener who may be willing to make allowances for younger children but who is less patient with upper grade students and (5) the emphasis on school subject matter in the advanced classes which may result in less time being devoted to the teaching of speech.

In a major study of speech intelligibility conducted some years ago, Hudgins found that the speech of older pupils in two schools for the deaf was less intelligible than the speech of younger children. The average number of consonant errors appeared to increase with age although vowel errors showed very little change. Hudgins also found that for one of the school groups the average intelligibility scores increased to age 12 and 13, then rapidly declined. In the other school the averages showed minor variations, but no definite trend with age. Further, although there was a tendency for the older pupils to speak more rhythmically, the rhythm pattern was not more likely to be correct. It was pointed out that this apparent deterioration may have been due to an unequal distribution of hearing losses and the variability of speech intelligibility of individuals within the groups.[2]

Whether or not these results indicate true speech deterioration, there is some evidence that at the time this study was done, the speech ability of deaf students was not keeping pace with the demands of the content and process of communication. Haycock stated it as a result of "inadequate and insufficient training and preparation to meet a constantly growing and expanding set of varied requirements."

There are some indications that since World War II the speech of upper grade students is developing at a rate more in keeping with their total growth patterns. The introduction of modern auditory training equipment and teaching methods may help the acoustically handicapped person monitor his speech more effectively, and thus make it more intelligible.

A number of instructional procedures for older children have been suggested. These are based on the principles: (1) as new language is taught, the necessary speech skills are developed; (2) speech training for older pupils must be directed toward making the deaf child capable of monitoring and correcting his own speech; (3) speech-teaching activities should be interesting and meaningful to teen-age students and (4) the deaf speaker should be made aware of the problems of the average person who is listening to his speech.

Speech correction and development should be a part of the daily program of every pupil in a school for the deaf. In the development and preservation of any complicated motor skill, consistent directed practice is of primary importance. The speech program must be positive, not merely the correction of errors. There is a place for group teaching of advanced pupils on new words, accent and rhythm patterns and the like. Individual speech lessons should emphasize the elimination of the peculiar problems of the particular child.

Older deaf pupils can be trained to recognize rhythm patterns and use sentence meaning in determining the appropriate phrasing and emphasis.[4] The dictionary should be used for diacritical markings, syllabification and accent as a self-help device for all older pupils.

Such procedures as choral speaking; recitations of poetry, prose, and dialogue materials; dramatics and directed conversations should be helpful in keeping students interested in speech development. The emphasis should be on the interpretation of meaning and feeling rather than only on the mechanical aspects of speech.

In an attempt to make older deaf pupils aware of the extent to which their speech was understood by groups of listeners of varying listening experience, a study was conducted at the Gallaudet Day School for the Deaf, in St. Louis. A variation of the appraisal method described by Hudgins[5] was employed. Four classes were selected for articulation testing. Twenty-one of the pupils were profoundly deaf and nine were classified as educationally deaf. Thirteen auditors, who had varying experience in listening to the speech of deaf persons, were selected. Four listeners were teachers at the school, five were mothers of deaf children and four were college seniors who had no experience in conversing with deaf children. The pupils each read a list of fifty PBF (Phonetically Balanced Familiar) words to the listeners who wrote the words which they thought were said. The responses were then scored and a per cent correct score was obtained for each listener for each pupil. As would be expected, the teachers heard significantly more words correctly than the other two groups.

Analysis of the data revealed the relative articulation ability of each child in the group and the type of speech errors which were common to the group. These results have important implications for the speech program of the school.

For the present discussion, perhaps the most important feature of this procedure was that it became possible to point out to the student the way in which his spoken words were misunderstood. If a majority of the listeners hear a word as *hit* when the child intended to say *heat*, there was graphic evidence, not only of the error, but the direction it took from the proper pronunciation. In this way students were made aware of one of the problems of the listener, and the importance of precise articulation was vividly demonstrated. It was our impression that this experience had a greater impact on the students than anything else that had been done with their speech.

In summary, although there may have been lack of speech progress for older deaf children in the past, there are some indications that

this condition no longer exists. With skillful teaching, evaluation and guidance, older deaf children can continue to improve their speaking skills. This is where we are going in speech teaching with older deaf children.

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Language I Tuesday A.M.

Problems and Issues

Chairman: Genevieve Drennen Roberts, Cincinnati Public Schools, Cincinnati
Panel of Discussants: Beatrice Ostern, Dorothy Beal, Dr. Donald G. Doehring and Hazel Smullen

Language in Personality Development

NANCY WOOD

Dr. Wood is consultant to the Section on Exceptional Children, U. S. Department of Health, Education and Welfare. The following is an outline of her remarks.

I. The Development of Language
  A. What is language?
    1. Language is the way in which human beings communicate with one another.
    2. Language is based upon the reception and expression of symbols; a symbol is an abstraction that stands for or represents something else (i.e., words, numbers, musical notes, paintings, etc.).
    3. Of primary concern to this discussion is the concept of language in terms of the reception and expression of words. Verbal expressive language is called speech.
    4. The development of speech and language is dependent upon:
      a. Well functioning sensory pathways
      b. Adequate mental abilities
      c. Integrity of the central nervous system
      d. Emotional stability
    5. Numerous factors can impede or delay the normal acquisition of language:
      a. Deafness or hearing loss
      b. Mental retardation
      c. Central nervous system impairment
      d. Aphasia
    6. The development of language is one major differentiating factor between human beings and the higher primates. Language can be divided into three levels:
      a. Inner language: ideas, thoughts, organization of information.
      b. Receptive language: ability to understand communication from others by receiving language through the sensory pathways, viz.: audition, vision, etc.
      c. Expressive language: ability to communicate ideas to others through words (either written or oral).

II. The Development of Personality
  A. How does personality develop?
    1. Personality develops in direct relationship to the interaction of the organism with other people.
    2. A language disorder can change or qualify personality development in proportion to the language deficit.
    3. Personality development is dependent upon the ways in which and the degree to which the individual learns to respond on a consistent level to stimuli.
    4. There are many factors that can be considered in the effect of language on personality development.
      a. Direct Stimulus Learning: Much of our learning consists of responses to direct stimuli. We hear, see, taste, touch, smell the various environmental clues that are presented to us in a continuous and reenforcing process. Repetition and reenforcement are important to our responses and eventual response patterns.
      b. Learning in Social Situations:

Usually learning from social situations is an indirect procedure. This may be done, for example, through:

1. Imitation
2. Suggestion
3. Negativism
4. Identification
5. Repression
6. Substitution
7. Sublimation
8. Autistic thinking
9. Regression
10. Redirection

III. Effect of Language Development on Personality Development

A. It is apparent that a language disorder will qualify personality development, in terms of the types of deficits present, the degree to which they exist, and the kinds of habilitative planning available.

B. Not only a child's liabilities, but also abilities should be considered in habilitative planning.

C. Differential evaluation of a child's disorder is not static and the classification of the problem should not be accepted without periodic reassessment.

D. Total aspects of the child and his problem must be evaluated. Individualized planning for his habilitation and future development must be considered.

Panel Discussion

BEATRICE OSTERN

Miss Ostern is assistant principal at Lexington School for the Deaf, New York.

Dr. Wood described the following four conditions as affecting the child's progress in the development of language:

1. Intact sensory pathways
2. Adequate intelligence
3. An unimpaired central nervous system
4. Emotional stability

These conditions I would call the intrinsic factors, the factors the child himself brings to the learning situation.

I would like to add to Dr. Wood's list, as an important condition affecting the development of language, the extrinsic factors, the environmental situation in which the child functions, the totality of his life experiences (psychological, social, intellectual); or what the situation brings to the child.

Just as defective functioning in any one of the four areas named (such as occurs when there is deafness or blindness, mental retardation, emotional disturbance or disorders of the central nervous system) will result in delayed or otherwise impaired development of language, so, too, will environmental deprivation lead to deviations in language development, or to language pathology.

One of the very sad things about the handicap of deafness is that it constitutes an intrinsic defect, which, by its very nature, imposes extrinsic handicapping. Not only is the deaf child himself different, in that he must learn to perceive language through another, far less satisfactory sensomodality, but the very world in which he is attempting to function is different. For example, is water running soundlessly the same as our familiar running water? I chose this example deliberately because I think of how impatient my father becomes with my sister, who is deaf, when she forgets, frequently, to turn off the water faucet. What is silent laughter? Is heavy traffic perceived visually as impressive as traffic abounding with noise?

The personality of the deaf child will be affected, not only by the usual conditions influencing personality growth, but also by the fact that he is forced to learn in a different way in a world that is not quite the same as the one we know. Despite the fact that we all know deaf individuals who vary widely in their personalities, and do not fit the stereotype of the deaf as a person who is suspicious, rigid, egocentric and socially and emotionally immature; research and our own experience force us to qualify, but not ignore this stereotyped personality profile.

Language, as a tool for thinking and for socialization, plays a vital role in personality development. And language is, of course, the area in which the deaf experience the most difficulty. Significant as the verbal components of personality may be, it is important not to overlook the nonverbal elements, nor to underestimate the relation between verbal and nonverbal factors.

Personality, it seems to me, is the total complex of reactions characteristic and distinctive to the individual — the way he walks, plays and reacts to people and situations; his likes and dislikes; what he values or shuns; the things that make him laugh or cry and the way in which he expresses his thoughts, feelings and attitudes. All of these characteristics are shaped, in the early years, as well as all through life, by the particular life experiences of each individual and what he brings to these experiences. The factors at work are verbal as well as nonverbal.

In helping the deaf child develop his personality to the fullest potential, we must do our best to interpret to him the world about him, and to expose and alter any distortions of reality his deafness and/or experiences may have led him into. We must help him to gain the best possible facility and adequacy

in expressing himself to the world. To accomplish this we must recognize, tap and utilize his nonverbalized feelings, ideas and reactions. Despite the fact that we know how difficult it is for the deaf child to master the language of self-expression, we frequently make the mistake of judging the deaf person's functioning purely by his verbalized responses.

The teacher of the deaf can do much to nurture the deaf child's personality. She must utilize to the fullest the child's capacity for hearing and speech in order to overcome the intrinsic deprivations that limit his personality growth, because they limit his language. A curriculum which stimulates independent thinking, and which creates an emotional climate conducive to security and self-assurance is certain to encourage personality growth. But we must go even further in order to challenge the extrinsic factors. We must expand the world of the deaf child and make it more meaningful by exposing him to a program of appropriate, planned, developmental experiences, and by a thorough intepretation of these experiences in appropriate language.

The language and speech curricula must be broad in scope, aim and function. Their content and direction should come from the needs and interests of the child himself. A language curriculum based on the teacher's preconceived lists of words, parts of speech and sentences may give the deaf child correct language, but it may not be adequate to express his personality. The language curriculum must never be cut and dried, as this results in the familiar deafisms. The child's own ideas and reactions should be elicited and given verbal expression in interesting, colloquial language. Many, many ways of expressing the same idea should be presented to provide for choice as well as growth.

Most important of all, the teacher must give the child confidence in himself; faith in his own feelings, reactions, observations and ideas. Through her own respect for him she can help him feel safe in his attempts to enjoy the freedom of expressing his own uniqueness. In this way his nonverbal reactions will be aired, discussed, analyzed and given apt expression. He will be helped to develop mature and flexible attitudes toward himself and life; and the teacher can provide him with the needed colloquial, idiomatic, conversational language with which to express his personality.

DONALD G. DOEHRING

Dr. Doehring is assistant professor of medical psychology in the department of neurology at Indiana University Medical Center, Indianapolis.

The proposition that language serves as a mold for all thoughts and as a director of all high level cognitive processes has been advanced in a number of different contexts. I would like to discuss two of the forms in which this hypothesis has appeared, and then present some evidence which indicates that normal verbal processes are not essential for all high level cognitive activities.

There are at least two different points of view regarding the importance of language (that is, the activities involved in speaking, listening, reading and writing) for normal intellectual development. Generally stated, the first viewpoint holds that all higher level cognitive activity involves an internal manipulation of the environment by the use of verbal symbols. According to this point of view, the operation of all so-called higher intellectual functions would have to await language development, and a retardation in the acquisition of language would necessarily constitute a retardation in general intellectual development.

A second point of view, and the one that seems most reasonable to me on the basis of present evidence, is that language and nonlanguage abilities can develop separately, and that retardation in the development of one type of ability does not necessarily prevent normal development of another kind of ability. According to this point of view, a delay in the acquisition of language would not inevitably produce a retardation in the development of all high level cognitive functions.

These two points of view regarding the importance of language for thought are of more than merely academic interest. The educator who is concerned with the training of children with language retardation or language disabilities would certainly like to know whether he should abandon all efforts to train a child who has reached a standstill with respect to the development of verbal abilities. I doubt whether anyone with practical experience in this area seriously entertains the notion that all complex cognitive abilities require the use of verbal language, but a number of theoretical statements have been based on the assumption that language is an integral part of all higher level thought processes. I would like to summarize two of these theories.

The late Benjamin Lee Whorf formulated a very provocative theory of linguistic relativity.* His basic hypotheses were that all higher levels of thinking are dependent on language, and that the structure of the language one habitually uses influences the manner in which one understands his environment. Whorf based this theory on differences between the language structures of totally different cultures, especially the difference between English and the language of the Hopi Indians. One of his most important findings was that the Hopi language is structured in such a way that

*Whorf, B. L. *Language, Thought, and Reality.* New York: John Wiley & Sons, Inc., 1956.

the Hopi's thoughts about events always include both space and time operating together, whereas the English language is structured in such a way that we think of space and time as separate, independent dimensions. One outcome of this particular linguistic difference is that the Hopi could probably understand Einstein's theory of relativity within the framework of his language, whereas we must depart from our language system and adopt the language of calculus to understand Einstein's theory. Whorf's theory of linguistic relativity exerts a powerful intuitive appeal as an explanation of the interrelation of linguistic and thought processes, and his work has markedly influenced the theoretical formulations of present-day psychologists and linguists.

There are a number of other viewpoints from which the relation of language to thought can be considered, but I will mention just one more, the theory of cortical dominance. It has been known for many years that the actions of brain-damaged individuals are selectively impaired as a function of the location of brain lesions within the cerebral cortex. Damage to the left cerebral hemisphere tends to impair movements involving the right side of the body, and damage to the right cerebral hemisphere tends to impair movements involving the left side of the body. More important for the present discussion was the discovery that language processes in right-handed individuals are more impaired by damage to the left hemisphere than by damage to the right hemisphere. Since damage to the left hemisphere could result in an impairment of language processes in addition to impairment of activity of the right hand, it was perhaps inevitable that the left hemisphere should be designated as the dominant or major hemisphere, while the right hemisphere was assigned the role of nondominant or minor hemisphere. This classification carried the further implication that all higher mental functions were subserved by the dominant hemisphere, while the nondominant hemisphere participated only in primitive, noncognitive activities.

Within the last few years, we have accumulated quite a bit of information concerning changes in cognitive activities as a consequence of cortical lesions. This evidence has led us to the conclusion that normal functioning of language processes is not essential for adequate operation of all higher level cognitive activities. Most individuals who sustain sizable lesions of the left hemisphere do tend to exhibit a certain degree of language deficit, but quite often these individuals perform nonverbal cognitive activities at a normal or near normal level. Sizable lesions involving the right hemisphere, on the other hand, tend to result in severe impairment of certain nonverbal cognitive activities, especially those processes that involve spatial configurations. In a recent study we found that patients with lesions of the right hemisphere made more errors than patients with comparable lesions of the left hemisphere in the performance of a task that required a relatively high level of abstract thinking for the attainment of a series of difficult concepts. On this test, more serious impairment of performance was associated with lesions of the right or nondominant hemisphere. The most probable explanation of this finding is that the test was essentially nonverbal. It involved the abstraction of various combinations of attributes such as size, shape, color, number and position in a series from a set of visual stimuli with no verbal content except for the test instructions. Another important finding was that these same two groups of patients, although equal in Full-Scale Wechsler-Bellevue IQ, differed significantly in both verbal and performance IQ. The group with left hemisphere lesions was significantly lower in verbal IQ, and the group with right hemisphere lesions was significantly lower in performance IQ. A similar trend with respect to patterns of intelligence test performance has been noted in a number of other studies conducted in our laboratory and in other laboratories.

It appears that we should not speak of the localization of all high level cognitive functions in a dominant hemisphere, but should rather say that an intact left hemisphere is more important than an intact right hemisphere for verbal functions, while an intact right hemisphere is more important than an intact left hemisphere for certain complex nonverbal functions. We may, in the future, achieve a greater degree of refinement in relating specific regions of the brain to the normal functioning of very specific abilities, but our present information is sufficient to indicate that one part of the cortex is more important for verbal cognitive activities and another part of the cortex is more important for nonverbal cognitive activities.

The evidence for differential lateralization of cognitive abilities also casts some doubt on the generality of Whorf's theory of linguistic relativity. In our present state of knowledge we should, perhaps, recast his hypothesis into the following form: All higher levels of verbal activity are dependent on language, and the structure of the language that is habitually used may strongly influence the general form and the adaptive potential of verbal cognitive processes.

I should mention that the evidence for lateralization of cognitive abilities was obtained in experiments with brain-damaged adults, who have had the opportunity to develop both language and nonlanguage abilities before the occurrence of cerebral dysfunction. Although we do not yet have enough information to

draw any firm conclusions concerning the lateralization of cognitive abilities in children with congenital brain damage or brain damage sustained in the preverbal postnatal period, the evidence that we have obtained so far suggests that differential lateralization occurs in these children in the same manner as in adults.

In the consideration of children with language retardation, therefore, we should probably reject, at least tentatively, the theory that language shapes or is essential for all thought processes. The child with language disability is not necessarily retarded in other aspects of cognitive activity. Children with a specific dysfunction of auditory sensitivity are retarded in language development, not as a result of left hemisphere lesions, but as a result of lack of verbal stimulation through the auditory system. Even though these children may be considerably retarded in language development during their early years in school, we should expect normal development of nonverbal abilities in these children if they have been given a normal opportunity for the development of such abilities. This expectation is borne out by evidence that the majority of deaf children perform within the normal range on nonverbal IQ tests and tests of nonverbal concept formation. Any deaf child who exhibits severe deficits of nonverbal abilities with no obvious emotional disorder (and Dr. Wood has indicated that there might be quite a few of these children) should be suspected of organic impairment in addition to the impairment specifically associated with deafness. It is our hope that by further studies of the relation of brain lesions to changes in the behavior of both children and adults, we will be able to gain more insight into the cognitive process, and that we will be able to provide the educator with a more precise description of the pattern of disability of the handicapped individual.

Language II Tuesday P.M.

Where Are We Going?

Chairman: Harriet Green Kopp, Principal, Day School for the Deaf, Detroit
Symposium: Margaret Wood, Harriet Haskins* and Hortense Barry

Teaching Language Concepts to Deaf Children

In the demonstration given by Mrs. Margaret Wood of the Lexington School for the Deaf to show how language concepts are developed the following children from the Lexington School participated—Mitchell Travers, 10, Catherine Christopher, 11, Marjorie Hyatt and Frances Mangella, both 13.

The demonstration was planned to show:

1. the development of an understanding and the use of such abstract words as freedom, patriotic, patriotism, independence and declaration.
2. an understanding of the meaning of the birthday of the United States and an appreciation of Independence Day in 1776 and now.
3. the spontaneous use of language at all times by the children with the teacher and among themselves.

The children were introduced to the main topic for discussion—"The Birthday of the United States"—by talking about their birthdays, how they celebrate them or would like to celebrate them. In the course of the lesson they learned the meaning of independence, got an understanding of a patriotic holiday and learned when and how the first Independence Day was celebrated. Throughout the lesson the children were encouraged to give their concepts of the words and ideas under consideration and then clearer and/or broader interpretation was given whenever necessary.

After a lengthy discussion of the abstract words given and their own birthday celebrations the following paragraphs were written by three of the children. These paragraphs show the contrast between personal and nonpersonal topics.

All About My Birthday

My birthday is on July 23. I will be twelve years old. I don't think that I will have a birthday party because I will stay at Lake George all summer.

Catherine, age 11

Independence Day

The Fourth of July is a day that we celebrate America's birthday. The Fourth of July has another name. It is called Independence Day. Some people in America celebrate with flags and parades.

Frances, age 13

Our Nation's Birthday

The Fourth of July is a day we celebrate our nation's birthday. Independence Day is another name for the Fourth of July. We remember the first Fourth of July when the Liberty Bell rang to tell the people that they were free. It is a patriotic holiday.

Marjorie, age 13

*Miss Haskins' remarks, in an expanded version, will appear in a later issue of the *Volta Review*.

Training the Young Aphasic Child

HORTENSE BARRY

Mrs. Barry teaches aphasic children in Junior High School No. 47, New York, N. Y.

In training children with language disorders there are three important considerations:

1. The physical setup
2. Corrective therapy for psycho-motor dysfunctions and disturbed behavior
3. The development of language itself.

Because this is a language demonstration, I shall omit details on the physical setup, but shall include the corrective therapy, as this *must* precede language training.

CORRECTIVE THERAPY

The young aphasic child may not be able to control his behavior and to integrate his experiences. This problem is often referred to in terms of distraction, disinhibition and preservation; sometimes called the Strauss Triad. This disintegrated behavior must be dealt with before specific language training can be started. Firm, deliberate procedures are helpful in handling these characteristics. Removal from the situation, mild restraint, soothing vocalizations, substituting another activity, knowing the child's tolerance level and structuring are the most successful approaches. Probably the most important, the key word, is structure.

What do we mean by this? We mean putting things in order, we mean teaching limits and sequence, we mean clarifying, dramatizing, simplifying, concretizing. We mean bringing the foreground sharply into focus, blocking out nonessentials. We mean touching and feeling, and looking, and listening, outlining, and underlining. We mean performing a simple activity in deliberate, sequential steps, in response to deliberate sequential commands such as: "Pick it up, look at it. Where does it go? Put it there." We mean every technique, device or trick that will help the child to hear, to see, to understand better.

Because auditory and visual perceptions are directly related to conceptualization, to language development and to behavior, we can probably do more for the young aphasic child with perception training than in any other way. Most of these children are able to receive sensations, their hearing and vision are usually not defective as far as acuity is concerned. It is in perception, the interpretation and integration of these sensations, that there is impairment. In training impaired perceptions we use a variety of materials and activities in touching, listening, sorting, coloring, cutting, tracing and folding. We start with color and go on to form. We match; find likenesses and differences; put into categories; do exercises in sequence, progression, spatial relationship and body image. We train to stay within limits, to arrange according to size, shape and color. We make meaningful wholes out of meaningless parts. We find which is big, little, heavy, light, tall, short, which comes next, and where is the top? We talk about sequence of time, numbers, letters and words. We use concrete, manipulative materials whenever possible. We train auditory perception and auditory memory. Not all of the therapy is necessary however, for every child. We must find the defective areas for each, and fill in the gaps by training. We train only the impaired functions. We scale all materials to the individual child. We find how the child best learns to receive, interpret and respond to a stimulus. We use this avenue be it visual, auditory, kinesthetic or tactile—to reach him, and start the training at his level. We use a minimum of verbal instruction at the start. Many of the materials and some of the techniques are used in more than one area of training; e.g. tower building with blocks is used for training both motor capacity and visual memory.

DEVELOPMENT OF LANGUAGE

In normal language development inner language begins to function at about eight months of age, receptive language at from eight to thirteen months and expressive language from thirteen months on. Therefore, in training language disabilities we follow this order.

For the child whose inner language is impaired (termed central aphasia in some classifications) we must train this area first.

If the child's inner language is intact, but if he is impaired receptively (receptive aphasia) we start with receptive language training.

The child whose only language disorder is an expressive one (expressive aphasia) is the easiest to handle, as his behavior is usually not so disturbed, and as he needs training in expressive language only.

From the child's history, and from the evaluation and observations made by the teacher, the level at which to start language training can be determined, and a program planned for each child. Language training, and training in areas already discussed, are usually started at the same time and are coordinated. Hence the verbal expressions involved are used in both; e.g. one of the first goals in training receptive language would be to teach the colors, since these are used throughout the training in psychomotor functioning.

Inner language training

In training inner language we help the child

to relate better to his environment. Toys representing familiar things and people are used. They are symbolic of his everyday life, and the teacher assists him to use them meaningfully. He is helped to pick up a toy spoon and feed a doll, to pick up a doll's comb and comb its hair, or to put a doll in a carriage and push it. He is helped to arrange toy furniture, to place the chairs around the table, to put the kitchen things together, or the bedroom things together. He is encouraged to put the daddy in the car and make the car go, to put the baby in the crib, or to place the dishes on the table. He is taught to *make believe*, to use past experience, to integrate. Until he can do this, receptive and expressive language training are not attempted.

Receptive language training

It has been found that teaching the basic color words makes a good beginning for some children in training receptive language. Solid color, two-inch blocks are used. Red, blue and yellow are taught first; then orange, green, purple, black, white and brown. The red and blue blocks are placed on the table. The teacher picks the red one up and says, "This is red, red. See, it's the same as your tie; it's red. Let's find something else red. This ball is red." She replaces the block and repeats the procedure with the blue block. She encourages eye-to-eye contact, sits very close to the child to focus his visual attention, and uses a hearing tube to focus his auditory attention. She speaks in a low, clear voice. She keeps *feeding-in* the word being taught, slowly and carefully. When sufficient time has been spent on this *pouring in process*, the teacher says, "Where is red? Show me the red block." She trains the child to respond by picking up the correct block, doing it herself at first, if necessary.

When several colors have been taught in this way, the teacher sits behind the child so that he can no longer see her face. She repeats the activity, and he must now listen very attentively to the stimulus since the visual clues have been removed.

For the child five years of age or over, who has great difficulty remembering the auditory patterns, it is recommended that the printed form be introduced at this point. As each color is taught, a card with the word printed in the same color is presented. The child is led to trace the letters (kinesthesia), place the correct block on the card while the teacher continues to repeat the color word verbally; e.g., "This says red; you feel it; let's put the red block here; see they are the same; they are red." When the child has learned to match the printed forms in color, the color words are printed in black. This procedure also suggests reading readiness and may be done, too, with the toy figures and objects that are used next for receptive language training. In fact, the concept of color may be too abstract for some children even with the use of the large, concrete blocks. In this case, the toy figures and objects are used first. A word of caution might be necessary here, in regard to using more than one sensory avenue at a time. Some aphasic children, and especially receptive aphasics, are very apt to be highly distractible and unable to tolerate the auditory, the visual and the kinesthetic stimulation simultaneously. This intolerance will reflect in their behavior, and at the first sign of disturbance the teacher will emphasize only the listening approach.

The small toy furniture and figures representing the things and people he sees every day are placed before the child, a few at a time. He is given their names again and again. Therapy continues until he can recognize a great many of these. The teacher says, "Where is the car? Give me the chair. Show me the baby." If these verbalizations are too difficult, they are reduced to one word. The teacher simply says, "Car—chair—baby," and trains the child to pick up or point to the toy. His receptive vocabulary is steadily enlarged. He is taught the names of many things; e.g., pieces of furniture, the rooms in which they belong, the foods he eats every day, the things he uses in school, the vehicles in which people travel, articles of clothing, the parts of the body, the toys with which he plays and the people he knows.

After many nouns have been learned, the action words that can be demonstrated easily are taught. The child is trained to respond to the commands: jump, run, hop, march, skip, dance, stand up, sit down and turn around. Other frequently used verbs (put, show, see, give, love, come, play) and *how many*, *what kind of*, *how* and *when* words are taught. These are associated in pairs or groups whenever possible; e.g. big-little, up-down, one-two-some, now-soon-later, heavy-light, fast-slow, pretty-funny, before-after.

Prepositional phrases come next. The child learns the concepts of in, on, under, around, before, after and other prepositions. The teacher continues receptive language training, using more complex language. She may now say, "Put the boy in the big red chair. The baby wants to go in the little bed. Put one shoe under the blue table. Let me see you run fast. Put the white hat on the daddy."

During this training no expressive language is demanded. Many children will begin to give back spontaneously some of the language that has been constantly poured in. They will begin to understand some of the simple conversational language that takes place in their environment, and to realize that verbal expression has meaning. They will gradually take over the job that we have been doing for them. They will begin to structure their own

auditory worlds. Only then are they ready for expressive language training.

It is this kind of receptive language training that I will demonstrate today with John. John is six years, four months of age, was born in England, a premature baby and was first suspected of having a hearing loss when about two, as no speech had developed.

He was examined at the Royal Northern Hospital in London when three-and-a-half and was found to have a severe hearing loss and to be functioning on a borderline defective level. At that time he was penalized because of difficulty with refined manipulative tasks and later was found to be functioning within normal limits.

John came to the United States when almost four and was given auditory training in the infant program at the Bellevue Hospital Hearing and Speech Center in New York City for two months. At the age of four years, ten months he made a Merrill-Palmer Scale mental age of five years, six months in spite of the fact that he was still having difficulty with visuo-motor tasks. A hearing evaluation at this time showed an 81-85 db. loss.

John entered a preschool class for deaf and hard of hearing children at Junior High School 47, New York City, which he attended for over a year, and while his teachers found him to be a socially charming little boy, they also found that John was not responding or learning like a normal deaf child. They were sure that he could hear because of his reactions to sound and music, but they could elicit no response to language.

Because of the suspected hearing, certain behavior characteristics and lack of spontaneous speech, John was examined by the Bureau of Child Guidance in May, 1959 and was found to have a possible aphasia and was recommended for trial in the young aphasic class. John entered the special class in September, 1959 with a receptive and expressive vocabulary of four or five words. He has made dramatic progress during one year's intensive training in psycho-motor functioning and receptive language. I think you will agree that he is a charmer and that his prognosis is probably excellent. I selected John for these reasons and also because I felt that you as teachers of the deaf probably see children like John in your own classrooms.

John has been through the beginning training with the large blocks and now knows all the colors, learned through the auditory approach alone.

DEMONSTRATION

I. John listened, back turned to the teacher, who named the colors. He pointed to each, then matched the printed forms and read them.

II. To demonstrate auditory memory, the teacher named two, then three colors, and John pointed to them. The teacher said *mum-mum* two, three, one and four times, and John imitated her. The teacher said *baby*, using different pitch for the syllables, and John imitated her.

III. For the demonstration of receptive language training with figures and objects, the teacher and John sat at a small table where toys had been placed. The teacher said, "Show me the mommy," etc. When John (whose back was turned, and eyes closed) had recognized all the words through listening, Mrs. Barry gave him sentences using two clue words, as, "Put the daddy in the red car."

IV. Verbs were shown in the same way, with the child responding by performing the action.

V. John responded to the following questions asked by the teacher: What's your name? Can you write that? How old are you? What color are your eyes? John, are you very bad?

Invited Papers Wednesday A.M.

Invited Papers I

Presiding: Dr. Sam Craig, Superintendent, Western Pennsylvania School for the Deaf, Pittsburgh

Meeting Recreational and Social Needs

ROBERT H. DOMBRO

Mr. Dombro is recreation therapist with the Baltimore Hearing Society.

It would be misleading to state that Baltimore has completely met the recreational and social needs of its children having serious speech and hearing disorders. Baltimore, as well as your community, never completely meets the needs of any of its citizenry. It is encouraging to report, however, that the Health and Welfare Council of Baltimore, which plans community needs for Baltimoreans and which promotes community welfare through planning and coordinating of services, is very much aware of these handicapped children. This awareness has moved the staff of the Council to have public and private

recreation agencies plan and provide recreational and social activities for them. The communication with the Council and the motivation of its staff to make provisions for community services for a segment of the population which is unable to make its own needs known is the significant contribution of a five-year demonstration recreation project which was recently completed by the Baltimore Hearing Society.

The idea for the recreation project for speech and hearing impaired children was first conceived in Baltimore by a past director of the Hearing Society, Miss Artus James. Miss James was very much concerned with the lack of community recreation facilities for these children. She was firmly convinced that regardless of the excellence of medical, educational, therapeutic and recreational services provided them by professionals in somewhat isolated environments it was equally important to have laymen in the community understand and meet their needs. It was disheartening to Miss James to witness the rejection of these children by the community after they had received outstanding professional guidance which should have helped them become part of it. She believed that the children by participating with other youngsters in a normal speaking and hearing environment in public and private recreation agencies would be able to adjust to their community and to their respective neighborhoods.

Contact was made with the Health and Welfare Council. The Council was asked to survey the recreational and social agencies and discover the amount of services provided for the deaf, the hard of hearing, and those with central language disorders. *No services were in existence!* The committee of the Council responsible for the survey decided that a demonstration project should be conducted by the Hearing Society to provide children with activities in those community agencies. The Baltimore Community Chest was informed of the Council's recommendation and agreed to provide funds (approximately $35,000) to support the five-year project.

In April 1955, the Hearing Society began the project and set forth these aims:

1. Hearing and speech impaired children could participate in recreational and social activities with normal hearing and speaking youngsters. Through this participation in recreation agencies, the children could adjust and integrate more easily into their neighborhoods.

2. Established recreation and social agencies could be encouraged to include these children in their ongoing programs.

3. The very seriously impaired children could develop adequate recreation and social skills through a separate program conducted by the Hearing Society. Once these skills were developed, the children could be referred to the recreation agencies.

4. The results of the project could indicate that recreation agencies have the responsibility to program for all handicapped children that are able to use their facilities.

The Hearing Society established the project by working closely with the two parent groups in the Baltimore area, the Department of Special Education, the Hearing and Speech Centers of the Johns Hopkins and University hospitals, the otologists, the public health nurse, and the public and private recreation agencies.

When a child (usually ages 5-12) entered the project, the Hearing Society staff evaluated the child's language and social development. Additional information was provided by parents, teachers, therapists and the Hearing and Speech Centers. A decision was made concerning the child's ability to join a recreational group in an established agency (Boy Scouts, Girl Scouts, day and resident camps, YMCA, YWCA, YMHA, YWHA, CYO, Boys Clubs of America, City Department of Recreation, County Department of Recreation). If the child was not ready to join such a group, he was provided with a program at the Society; a program which emphasized language and recreation therapy. When the child learned adequate skills in both these areas, he was referred to one of the agencies listed. Before referring any children the project director met the staff of the agency and interpreted the needs and handicap of the child. The child was then introduced to the center staff, and if the child and his parents believed that the program would be beneficial, the child was enrolled in the activity which was most appropriate.

It should be emphasized that there was no limit to the type of activity in which a child might participate (only sports or arts and crafts, for example) but rather attempts were made to place the child in an activity where he had the most interest and ability. Periodic evaluations were made by the project director and the recreation center staff; if the evaluations were favorable, additional activities were provided so that through the year the child could have a variety of experiences.

The results of the evaluations in addition to supporting the four aims of the project developed other important findings regarding the inclusion of these children in neighborhood recreation programs:

1. The crucial age for a child with a profound impairment to participate in recreation agency programs and in neighborhood play with his peers is six to eight years. Before he reaches this age, he usually can play with his peers without using much language because the play is somewhat basic and individualized and communication needs to participate are

not great; however, when a child reaches the crucial age range, all concerned with his development must watch him closely and urge him to continue participating in recreational activities because he may begin to withdraw from playing; games become more complex and more language is needed to understand the rules. If a child withdraws at this age he may be well on the road to poor social adjustment.

2. It is important for parents and others concerned with providing services for the child to conscientiously map out the type of recreational and social programs which will be most beneficial at his present age and in the future. Two types of programs should be stressed—*individual and group.* At the age of six or seven, swimming would be a good individual activity in which to involve a child. Community group activities (scouts, clubs, day camping, resident camping) should be encouraged at ages eight and nine, all the while continuing to develop the individual skill of swimming. In another year, an additional individual skill should be added—bowling, tennis, golf. By learning both individual and group skills, the child, as he matures, will improve his chance for adequate social adjustment.

3. One of the advantages in involving the child in community recreational and social activities is that these activities are led by people who are interested in all children; people who will provide the child with a variety of activities and who will accept the child as a challenge even though at initial contact, many recreation leaders may have had very little experience dealing with speech and hearing defects. These leaders are people interested in understanding all children. (Several hundred recreation and camping leaders were contacted in Baltimore to provide service to the more than 100 children in the project; not one refused to provide the service.)

4. Recreation is an equalizer! In Baltimore the recreation and camping professions by providing varied activities had an opportunity to demonstrate the profession's growth and vision as the leaders became aware of their role in helping these children adjust to their communities. It was found that many of these children constantly seek equal status with their normal peers and in many cases fail to achieve it. Due to their handicap they are many times rejected by people who do not understand the significance and the many complications which a handicap causes. These children with great courage and will power might not be able to keep up with normal children in education and everyday accomplishments, but they can, with expert leadership, keep up in recreation and camping activities. Recreation and camping personnel are able to lead activities which are geared for all children; activities which will give handicapped and non-handicapped children the opportunity to play together, to understand each other, and to have fun together. Recreation and camping personnel can feel prouder than ever that they are part of a profession which can bring enrichment into the lives of all children and can help them attain equal status in the world about them.

Seventy-five per cent of the children taking part in the project had a severe or profound impairment. At the three-year mark, the Hearing Society asked the Council for an evaluation of their progress, an evaluation which would provide answers to the important question: Had the four aims been accomplished? A committee and research staff of the Council spent a year evaluating the project by questioning and interviewing parents, teachers, therapists, recreation and camping leaders, and recreation agency directors. The result of the research showed that four aims had been met:

1. There was general improvement in adjustment of the children in all areas. In emotional adjustment and speech and understanding, 95% of the children showed improvement in some degree. In relationship with nonimpaired youngsters, the improvement was 71%. Another indication of the success of the program insofar as the children were concerned is that the parents report that 89% of the children were eager to join other groups with nonimpaired youngsters in their neighborhoods.

2. Agency executives interviewed were in general agreement that the inclusion of the children in their programs had been successful for their agencies and beneficial to both the impaired and the nonimpaired children and that others with speech and hearing defects would be accepted in the future.

3. The research disclosed that the importance of the readiness program should be stressed. Children with severe communicative and emotional disorders in many cases could not have participated in programs in community agencies without it. The theory of building a child up to a point of readiness is a significant one in serving a group that "doesn't join in." The "readiness program" was mentioned frequently by parents as being very important to the eventual success of their children in a community agency.

4. Most agency executives felt that they would provide programs for children with other handicaps if their facilities were adequate.

The future of the project has been decided. The committee evaluating it recommended that the project become a permanent service offered by the Hearing Society, and that the Community Chest should continue to support this program. This recommendation has been approved and was based on the findings that

the demonstration had established both the effectiveness and the continuing need for this kind of service; a service which will accomplish the most important community need for these children—belonging.

Doll Play: A Sociometric Device

SOPHIA L. FRENCH

A STUDY OF THE RELIABILITY AND VALIDITY OF PROJECTIVE DOLL PLAY TECHNIQUES USED AS A DIAGNOSTIC TECHNIQUE WITH YOUNG DEAF CHILDREN

Mrs. French is assistant professor of special education at Eastern Michigan University, Ypsilanti.

Teachers and therapists who are concerned with the young deaf child are acutely aware of the fact that many of these children appear to suffer from some form of social or emotional maladjustment. We see the restless child, the destructive child, the frightened child, the withdrawn child all too frequently. We see them, and try to understand them, but most of the time we can only guess at what the root of the trouble may be. The young deaf child cannot talk about his likes and dislikes, his past experiences, his feelings and emotions. He can only react overtly, and the people working with him must attempt to piece out a picture of the child and his social interactions from behavioral and environmental clues. Obviously, many pieces of this puzzle are never found, and therefore teachers find themselves constantly managing children without having sufficient insight into the dynamics of their behavior.

The problem centers around the fact that the very young deaf child cannot express himself in words. Certainly the deaf child relates to others, but he cannot tell us exactly what he feels or why. As a result, a teacher, observing certain behavior, may completely misinterpret the causes of that behavior and may, therefore, aggravate, rather than ameliorate, a strainful situation.

Recognizing this situation, Dr. Leo Connor[1] has called upon teachers to assume a new role, to become diagnostic teachers, to attempt to "know deaf children inside and out."[1] This is a real challenge, but it is a challenge that can only be met if we, the teachers, can equip ourselves with more information about the feelings and reactions of our children than we have today. We need to have information that is founded on more than intuition or hunch. We need information that comes from the child himself and tells us how he feels about his world.

If these premises are true, it behooves us to look for a device that will enable the child to express his reactions to us. The necessity for this to be a non-language device immediately suggests the use of projective techniques. Is it possible to develop a simple test that could easily be used by teachers and others concerned that could serve as a sociometric instrument for young deaf children? If it is possible, can we then establish that the emotions expressed by a child through these projective techniques are reliable and valid? This was the rationale for the preliminary research described in this paper.

Since we were primarily concerned with the preschool child, our first task was determining what projective technique would be suitable. Doll play immediately suggested itself, and confidence in this choice was reinforced by Dr. Ruth Bender's report on improved adjustment achieved with a five-year-old deaf boy through doll play.[2] This provided a precedent for expecting young deaf children to be able to successfully project their emotions into doll play situations.

We then set about the task of designing a scheme for measuring children's reactions to each other through the use of doll play. Simultaneously we set up an experiment that we hoped would test the validity of the thesis that the behavior of deaf children in a series of doll play situations will express the feelings they have toward others.

PROCEDURE

The general plan of the research provided for doll play situations so devised that each child had to make choices among his classmates which would indicate clearly whom he liked and whom he disliked. To test the reliability of the emotions expressed by the children, two separate but similar doll play sessions, held several weeks apart, were planned for each child. Rank orders of liking were made from the separate sessions and the results were correlated. To test the validity of these emotions the rank orders of choice revealed in the doll play were compared with ratings made previously by two raters.

The experiment was designed for a class of six deaf children, four girls and two boys, aged four to seven. Five of the six children were well known to the experimenter and assistants. The sixth was a newcomer to the group, so new that her attitudes toward the other children were as yet unformed. She was, therefore, omitted from the doll play although a doll representing her was included in the sessions for the other children.

The doll play situations involved every child in the classroom and the teacher. They represented situations that the children experienced daily. The dolls were cloth dolls about a foot tall, dressed as boys and girls. They resembled the children only in hair color

(brown, black or yellow yarn) and in that they wore boy's or girl's clothing. For identification they wore large name tags. Every child could read all the names involved and there was no doubt that they recognized the dolls immediately. Actual schoolroom furniture, the children's small sized chairs and tables, were used as properties. Only one child played with the dolls at a time, alone in the room away from the others.

The first doll play session contained six situations. The first of these was seating for the classroom. A great deal of the teaching is done while the children sit in a semicircle facing the teacher. The children are free to sit in the order they wish and who sits next to whom becomes most important to them. Accordingly, the first situation was set up so that the experimenter seated the teacher-doll in the teacher's chair and the doll representing the subject in the center of the semicircle. The subject was then asked to choose a doll to sit next to him, first on one side and then on the other. The child then seated the remaining dolls in the remaining chairs. The order of choice was noted.

The second situation involved choosing who was to receive a present and who was not to. Six doll-sized presents (one less than the number of dolls) wrapped in tissue paper and ribbon were concealed in a small box. One was taken out, shown to the subject and given to the subject doll. Another was presented to the teacher doll. This was done to give the child the idea of giving the present away and to remove the possibility of his giving the present either to himself or to the teacher. The subject then was given the rest of the presents, one at a time, and was told to give them out also. Care was taken to make sure the subject understood that when he gave out the last gift there would be no more left; One child would have to go without. Again all choices were observed and noted.

In the third situation an opportunity to express aggression was provided. The subject was given a small stick and was told he could hit the dolls if he wished to. A little extra time was allowed for free aggression if he so desired.

The fourth, fifth and sixth situations were all similar in that they gave the subject opportunity to express affection in different ways frequently used in classroom play. The experimenter kissed all the dolls and then asked the child whom he wished to kiss. The same procedure was followed with dancing and with hugging.

At the end of the experimental period the child was given a few moments of free play with the dolls. This period also was observed and any significant behavior was noted.

The second session or experimental period was similar to the first, but not identical. Deaf children are such imitators that, should they be presented with exactly the same situations over again, they might well remember their previous experience and simply reenact it. Therefore, situations were devised that involved similar, but not identical choices.

Situation one was seating for lunch and the child was again asked to seat the dolls. Situation two was parallel to the gift-giving situation, just enough candy was provided for all but one doll. The balance of the session covered the passing out of cookies, a spanking situation and a hugging situation. As before, a free playtime was permitted and observed.

All these sessions but two were observed by an outside observer. When unavoidable circumstances required that the experimenter go ahead with the session without the observer, the experimenter filled in the observation blank as the session proceeded. The observer was an assistant who knew the children well and knew how to interpret their gestures and behavior. She was given a form on which she had merely to fill in names to designate choices. On the same sheet space was provided for running comments. At the end of the session the observer made a rank-order of likes and dislikes on the basis of her observations. The observer also wrote an independent brief summary of her interpretation of the session.

The ratings used to validate the doll play sessions had been made by two raters before the experiment took place. One rater was the experimenter, the other was a student teacher who had worked with the children for a semester. A five-point scale ranging from +2 for extreme like to −2 for extreme dislike was used. The average discrepancy between the raters was .68. The two ratings were then averaged to form a rank order of choices for each child. The results of the doll play sessions were validated against this averaged rank order.

RESULTS

The quantative results of the experiment are presented in the table.

From a study of the table we can see that the reliability between the two doll play sessions is fairly high, the rank order correlations varying from .40 to 1.00, the average correlation being .73. In one case there is no correlation as only one doll play was successful.

The validity between the raters' rank orders and the rank orders made by the observers at the end of each doll play session is high with one exception. The average rank order correlations for the nine successful sessions was .61. It will be noted, however, that in the case of Edith, not only did one session fail, but the other revealed a zero correlation. Subsequent

TABLE

Subject's Name	Average Rank Order of Ratings	Validity of Doll Play Session #I	Validity of Doll Play Session #II	Reliability of Doll Play
David	1 Peter 2.5 Edith 2.5 Mary 4 Betty 5 Ann	.83	.44	.40
Peter	1 David 2 Betty 3 Mary 4 Edith 5 Ann	.90	.90	.60
Betty	1 Edith 2 Ann 3 Mary 4 Peter 5 David	.70	.60	1.00
Mary	1 Betty 2 Edith 3 Ann 4 David 5 Peter	1.00	.90	.90
Edith	1 Betty 2 Mary 3 Ann 4 David 5 Peter	*	.00	*

*No convincing evidence was obtained for Edith from the first doll play situation since the technique appeared to fail for her. Therefore, there is also no figure possible for repeat reliability.

discussion of the results revealed that both raters had predicted that Edith would choose most frequently the child she actually rejected most strongly in the second doll play situation. The raters became convinced that they had seriously erred in judgment. If we eliminate Edith's scores from the total results as a result of these factors, the total validity is improved. The average rank order correlation then becomes .78.

Some of the qualitative results, however, will be of greater interest to most teachers. These reveal more clearly the nature of the emotions deaf children will express under such situations. Several selections taken from the observers' comments gave information, not only about likes and dislikes, but also about the strength of the emotions. Others gave insight into the child's own feelings about himself. In all cases except one (the first session with Edith) the running comment clearly indicated that the children were projecting into the situation and thoroughly enjoying it. Only a few of these comments are quoted here as samples of the type of behavior observed:

David: (Gift Giving Situation)—"Wanted to give himself the first gift, giving himself two; next wanted to give Peter, the only other boy in the class, two gifts." (Hitting Situation)—"Hit Ann many times and hard. Was reluctant to hit Peter."

Betty: (Gift Giving Situation)—"Thought a long time before giving away first present. Finally gave it to Mary with a big smile. Made a face at Peter and said there was no present for him." (Hugging Situation)—"Hugged Mary long and hard. Made another face at Peter and said she would not hug him."

Summarizing Report: "At the end of the session Betty was asked to help put the dolls away. She first put away the teacher doll and the Betty doll. Then Mary, Edith, Ann and David. She was gentle and smiled at them. When she came to Peter she held him up and looked around. There happened to be a wastebasket next to the table. Betty saw it, and then asked if she could put Peter there. When told she could, she threw him in, clapped her hands and laughed with glee!"

Perhaps the most interesting of all is the case of Edith, where the raters judged that she liked best the child she actually rejected most strongly. Edith indicated her dislike by not giving Betty either a piece of candy or a cooky. The observer wrote, "Edith said Betty would cry but she did not care. Shrugged shoulders." The discrepancy between the two rank orders led those working with Edith to review her case more carefully. We realized

that Edith and Betty had always been placed together by teachers because they were of an age. However, Edith was not as pretty as Betty, lived in a poorer home, had fewer possessions and was not as successful in the classroom. Very likely she was suffering from this competition. This opinion was confirmed later when we consciously separated the two much of the time and were soon able to see a real gain in self-confidence in Edith. In this case the doll play revealed hitherto unnoticed social relationships and served as a real guide to the teacher.

These kinds of data cannot be analyzed statistically as can the rank orders of choice, but they do indicate more about the nature of attractions or rejections. They also indicate quite clearly the children's ability to identify with the dolls. Perhaps they give the teacher the most valuable information of all in terms of improving her understanding of the social relations within a classroom.

CONCLUSIONS

This piece of research appears to have supported the original theses proposed. In the actual carrying out of the experiment we found that the doll play projective technique could be used, that the deaf children would project themselves into the doll play in most cases. Also when we measured our test and retest doll play situations against each other and against the raters' scales, we found that the measurements of the children's interpersonal relations were both reliable and valid.

This particular experiment also served as a useful sociometric device for the teacher in the classroom. In addition we learned through experience something about the conditions that are required if doll play sessions are to be used as a sociometric test. A fairly structured introduction to the doll play techniques is necessary, otherwise the children become confused and fail to understand their role. Even in these rather rigidly structured sessions, one case failed entirely the first time and several sessions were noticeably less successful than others.

In general a great deal more experimentation is needed. This research was small and covered only very few children. The results need to be tested elsewhere. From what we have done here, however, we can visualize many other areas in which doll play could serve as a diagnostic technique. With very little equipment and expenditure of time, teachers and therapists should be able to investigate areas such as parent-child relationships, sibling relationships, dormitory groupings, teacher assignments, etc. The child may not be able to express his feelings to us in words, but it is clear that he can express his reactions to others through structured doll play.

Dr. Edna Simon Levine has recently written, "Various play kits and doll families can be used to create situations for eliciting a preschool child's projective reactions and attitudes. In certain instances, unusual leads can be obtained in understanding a child's problems. Reference to such materials can be found in psychological test catalogues."[3] This statement makes it clear that clinical psychologists currently use projective techniques for diagnosis and therapy. Perhaps the small research described in this paper will serve to extend the use of these by teachers in the classroom.

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1. Connor, Dr. Leo E., "Diagnostic Teaching—the Teachers' New Role," *Volta Review*, Sept., 1959, p. 311.
2. Bender, Ruth E., "A Five-Year-Old's Adjustment," *Volta Review*, July, 1947, p. 309.
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Developing the Deaf Child's Power of Reasoning

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The role language plays in reasoning, and the limitations placed upon the thought processes by the lack of language understanding have yet to be scientifically determined. Furthermore, studies that have been made on the development of mental life in normal children are at variance and inconclusive.

Piaget[10] theorizes from his clinical investigations that the mental life of a child is characterized by four well-marked phases—(1) the autistic thinking in infancy, marked by phantasy and reflecting immediate desire; (2) the longer phase of egocentrism, in which a child has implicit belief in his own ideas and feels no need for proof; (3) the state in which social life emerges and the child begins to reflect, seeking logical unification and attempting to avoid contradictions (about seven or eight years of age); and (4) the stage at which formal reasoning on the verbal plane becomes possible (at the age of eleven or twelve).

Susan Isaac's[9] analysis of the remarks made under "relatively free conditions" by a group of school children ranging in age from two years seven months to eight years six months and covering a three-year period of time, not only fails to support Piaget's theories, but also provides concrete examples of the types of reasoning which hearing children employ.

One day when Adam became angry at James and threatened in a hostile tone to go to a shop and get all the guns and all the swords

and all the knives in the shop and kill him, James (age five-and-a-half) replied with a laugh, "They don't sell those things to children."

Some of the quotations recorded by Isaacs[9] illustrate, not only logical reasoning on the part of young children, but thinking that verges on the philosophical. Six-year-old Dan reflected at length on the statement: "The thing is nowhere," and concluded, "It must be somewhere if it's a thing at all."

How can we help deaf children use their reasoning ability to this extent?

To answer this question, we should analyze the meaning of the term "reasoning." One dictionary defines reasoning as: "Thinking logically; drawing conclusions or inferences from facts or premises." The term "thinking" is defined as "having an idea; imagining; remembering; reflecting; considering; reasoning," which leaves us exactly where we started.

A less circuitous definition is given by Dr. Rudolf Flesch[6] who arrived at his definition after reviewing the experiments in learning conducted by Dr. Köhler and Dr. Birch with chimpanzees.

In 1914 Dr. Köhler placed a recently captured chimp in a cage with a stick and some bananas outside the cage beyond reach. When the chimp solved the food situation in seven minutes by using the stick to pull in the bananas, Dr. Köhler concluded that the chimp had solved the problem by *insight.*

Thirty years later Dr. Birch, in an attempt to learn more about the nature of "insight," repeated the experiment using six chimpanzees born in captivity and whose experiences with sticks were known, Jojo being the only one with stick experiences. Each of the first four chimps who had never previously encountered sticks became angry and threw the stick in a corner when placed in a cage with the stick. When Jojo, who had often used sticks in various ways, was placed in the cage, she picked up the stick and pulled in the bananas with it in twelve seconds.

With Bard, the sixth chimp, Dr. Birch saw the birth of an idea and an explanation of the term "insight."

After struggling unsuccessfully for four minutes to get the bananas, Bard accidentally brushed against one end of the stick, moving it about three inches and causing the other end to pivot and push the bananas closer. On observing the movement of the food, Bard continued to push gently on the stick until the food came within reach.

Dr. Flesch inferred from this that there is no insight that does not go back to some actual experience, sometime, somewhere. Therefore, he defined thinking as "the manipulation of ideas or memories." Even inspiration, he says, is based on experiences and nothing else.

This definition of thinking indicates that the first step in teaching children to think is to provide them with as many worthwhile experiences as possible, including experiences in the use of language. Dr. Flesch says, "Every word in every language is part of a system of thinking unlike any other."[6] He illustrates this point with the statement that the Lithuanians have a word for gray when you speak of eyes, another when you speak of hair, a third for ducks and geese, and several more for other purposes, but no word for gray in general.

A person without the concept of grayness in isolation would be unable to recognize the common element in these terms.

Discovery of the common element in situations such as this forms the basis for the next step in developing the thought process—concept building. William James has said that we think in concepts when we realize that two experiences have something in common. Consequently, the more we do to help young deaf children become aware of the elements of sameness or difference in their various experiences, the more we do to promote their ability to think. Sense training and reading readiness work provide young deaf children with abundant opportunities to match identical objects and pictures and to delete unlike objects or pictures. This sense of sameness and difference is further experienced in beginning speech work when the voiced and unvoiced consonant sounds are compared and contrasted.

In language work, the elements of sameness between the words classified as *who* are noted and contrasted with those referred to as *what.* When the words listed under the classification *what* are further subdivided into the categories of food, clothing, toys, animals, etc., we are making a practical application of John Dewey's pronouncement that, a classification is a repertory of weapons for attack upon the future and the unknown.

Many deaf children seem to reason fairly well so long as they have pictures to guide them, but fail to make a satisfactory transition to verbal reasoning. For example, a child who is given a row of pictures illustrating the words ball, car, boat, and girl and told to cross out the one which does not belong in the group may succeed with the pictures and be unable to succeed when the words stand alone. This indicates it is not the concepts but the symbols used to represent the concepts which are not understood.

The same difficulty occurs on the sentence level. A child who is given pictures of a cat climbing a tree, a dog climbing a tree, a squirrel climbing a tree and a monkey climbing a tree may quickly detect the absurd pic-

ture yet be unable to recognize the absurd statement made when the four ideas are expressed in sentences without pictures.

To improve the deaf child's power of reasoning, more emphasis should be placed upon getting mental pictures from words.

Deaf children also need more specific practice in drawing previously learned information into new situations. For example, after children have learned the number of days in the various months and the fact that banks are closed on holidays, they should be able to underline the errors in the following sentences:

> On June 31 we shall have a picnic.
> On February 22 I went to the bank and cashed a check.

Deaf children's failure to read thoughtfully is also revealed when they get a dictionary to look up a word in a book which has been defined in context. There are so many ways in which words are defined in context that deaf children need special help with each type of definition. Sometimes the definition is an appositive which the child fails to identify as a synonym. At times the word *or* may be interpreted wrongly because it is used both to contrast terms and to indicate identity as the following sentences illustrate:

> Do you prefer milk or coffee? (Two different things)
> Cannibals, or man-eating people, can still be found in some parts of the world. (Synonymous terms)

Definitions contained in relative clauses deserve special attention too. Rephrasing sentences with relative clauses in various ways and breaking them down into two sentences is helpful.

Sometimes two sentences must be used as a unit to get the definition, as in the following:

Look at the globe and notice the lines running east and west around it. Such lines are called parallels of latitude. When asked to define parallels of latitude, a deaf child may say, "Such lines," without going back to the preceding sentence to find the words to which "such lines" refer even though he has had much practice in identifying the antecedents of personal pronouns.

Not only must deaf children be able to get the meanings of words defined in context; but they must also be taught to infer obvious meaning from context without the aid of a definition; as in the following sentence:

The hungry dog *devoured* his food quickly.

The words *hungry* and *food* should be sufficient clues to infer the meaning of *devoured.*

Although the use of contextual clues can be a great aid in inferring meaning, it may result in humorous errors at times. A group of seven-year-olds once showed me a picture of a donkey and asked what it was. When I wrote the word donkey, one boy erased it and wrote "fur_____." Thinking he meant, "burro" I also wrote that word; but he insisted it did not begin with a "b," but with an "f," and was a longer word. He said he had a picture in the dormitory with the word on it which he would bring after recess. This he did, and the picture depicted a long-legged soldier riding a small donkey. Above the picture was the caption, "Going home on a furlough."

Training in reasoning can be further developed by asking questions to which answers should be inferred from a paragraph, although not definitely stated:

> The weather was getting warmer. The grass was turning green and birds were building their nests. What season was it?

There is no better way to train deaf children to reason and use judgment than through guided instructions in the proper usages of the dictionary. Testing the multiple meanings of words to find the exact one to fit a particular context requires great skill.

When a child sees the question—Do you mount a horse from the right side or the left side?—and has the following meanings for *mount* to choose from: high hill; a horse; get upon, he should not only be able to see the absurdity that would result from substituting the first two definitions, but should recognize the need for a verb form to complete the auxiliary verb.

After children have had a great deal of practice in selecting correct dictionary definitions to make sentences meaningful, they need practice in constructing original sentences using the new vocabulary. This often reveals that the children's understanding of a word is far less than the teacher realized.

Once, when I asked a child to make a sentence using the word *erects,* I was amused by the statement, "God erects the sun every morning." Before I was able to make a comment, the girl defended her sentence, saying, "Erects means 'Causes to rise,' and God causes the sun to rise every morning."

Another child who was asked to make a statement using *different,* wrote, "I different a snake." Doubting that she meant to say, "I am different from a snake," I asked her to reword the sentence using a synonym for different. She then wrote, "I unlike a snake." Although it then seemed evident that she was confusing the adjective *unlike* and the verb *dislike,* I asked her to underline the verb in the sentence to get further proof. When she underlined *unlike,* I asked her to look in the dictionary and find out what part of speech *unlike* was, and had her compare it with *dislike.* Then she understood her error and was able to use *different* as an adjective.

In defining words, a child must always be required to define words with terms that are

identical in part of speech, number and tense if clear thinking and reasoning are to be developed. Because words in the dictionary are defined in the present tense and singular number while occurring more frequently in other tenses and the plural form, abundant practice must be given in changing the dictionary forms to fit into the exact contextual forms.

The ability to see relationships is essential to logical thinking. Some of the common ways in which relationships are expressed are through the use of analogies, metaphors and folk sayings. Despite the fact that false reasoning can result from the uncritical use of these, they serve a valuable purpose in teaching deaf children to think.

Anyone who has attempted to give deaf children a clear understanding of such folk sayings as, "Birds of a feather flock together," "An ounce of prevention is worth a pound of cure," or "A stitch in time saves nine," realizes how difficult it is to clarify the analogies involved and yet how essential to mature reasoning.

When training in reasoning is begun early, it can produce surprising results as I learned when trying to explain jet propulsion to a sixth-grade clas through use of the principle that to every action there is an equal and opposite reaction. To bring the explanation down to the level of a ten-year-old boy in the class, I applied the principle to the propulsion of a row boat with oars. At the end of the explanation the ten-year-old child asked when he could take a vacation to the moon. On getting my permission for immediate departure, he cocked his head on one side and asked, "But how can I get there?" When told that was his problem, he quickly retorted, "Well, I'll just turn myself upside down and blow my top."

Before attempting such difficult explanations as this, deaf children should have abundant practice with simple relationships of the following types:

A cat is to a kitten as a dog is to a _____

Feathers are to birds as _____ is to sheep.

Parliament is to England as _____ is to the U. S.

After using many sentences such as these, I once asked the children to originate some examples. One boy said, "Fur is to animals as feathers are to birds." When asked if all animals were covered with fur, he changed his sentence and said, "Fur is to a beaver as feathers are to a bird." Immediately after this another child said, "Being born is to mammals as being hatched is to birds." The statement was challenged by a ten-year-old girl who said, "Not a platypus. A platypus is a mammal, but it is hatched."

An excellent way to help deaf children understand analogies at a higher level is through the use of cartoons. If fifth- and sixth-grade pupils are well-informed on current events, they should be able to write brief explanations of newspaper cartoons related to these events.

The teaching of metaphors should not be delayed until the children reach the upper grades, but should be incorporated into the idioms and used in natural situations with appropriate explanations, such as, "You're an angel!" or "You have a heart of gold."

A somewhat different meaning of the term relationship is involved when it is applied to words which are reciprocal in nature rather than analogous—such as the pronouns *I* and *you*. A deaf child must be exposed to these an infinite number of times before the concepts of the speaker and one spoken to emerge.

A little later, the terms sister and brother; mother, daughter; niece, aunt; grandparent, grandchild; etc. will have to be dealt with as terms with reciprocal relationships. The words right and left fall in this same category and present confusion in sentences such as the following:

Is the Atlantic Ocean on the right or left of our country?

Is the United States on the right or the left of the Atlantic Ocean?

Is our room on the right or the left of Miss _____'s room?

Is Miss _____'s room on the right or left of our room?

An extension of this concept comes with the directions north, east, south, west.

In arithmetic, additional opportunities for drills on reciprocal relationships occur in teaching the terms more, less; older, younger; taller, shorter; etc.

Is there a teacher of the deaf who has ever taught the comparison of adjectives who has not had an affirmative answer to both questions of the following types:

Are you older than Tom? (Yes)
Is Tom older than you? (Yes)

In teaching concepts of time, the words yesterday, today, tomorrow, next week, etc., present a similar problem in relationship to the deaf who are unable to sum it up as neatly as one four-year-old hearing child did when she announced, "This is Monday and the next day is tomorrow which will be today."

After the yesterday-today-tomorrow battle is over, a deaf child must be helped to see the difference between the terms *next week* and *next year* as they relate to the present week or year and the phrases *the next day*, *the next week* or *the next year* used in reference to past events.

Pupils who are reading in school on Monday about a boy who went fishing on Saturday and to his grandparents' home *the next day* are prone to interpret *the next day* as

being Tuesday instead of relating it to the word *Saturday* in the story. However, such concepts as these must be clarified before children can comprehend historical sequence of events when dates are referred to as *the following year, in the next decade, at the close of the century, a few years earlier, in the same year,* etc.

It is a well-known fact that deaf children are very weak in the ability to follow instructions—a skill that will be demanded of them throughout their lives—yet, too often, their experiences in following instructions are limited to drawing a ring around a word, putting a line under or through a word, or drawing a line from one word to a matching word. Many more interesting and instructive types of activities in following directions can be conducted. One group of seven- and eight-year-old children enjoyed drawing pictures on the blackboard according to speechreading instructions such as the following:

1. Draw a house without any windows.
2. Put a tree with seven branches on it on the right side of the house.
3. Draw a porch with three steps in front of the house.
4. Draw a boy on the bottom step.
5. Draw a girl on the top step.
6. Draw a ball on the middle step.
7. Draw a wagon under the tree.
8. Draw a bird's nest in the tree.
9. Draw a mother bird flying over the tree.
10. Draw three windows and two doors in the house.
11. Put a chimney on the house.
12. Draw some smoke coming out the chimney.
13. Draw some flowers under one window.
14. Draw a dark cloud in the sky.
15. Color the house brown, the roof green, and the chimney red.

They also enjoyed having me take a particular word, such as *first,* and give them as many different directions for its use as possible, as follows:

Write your first name.
Write the first letter in your first name.
Write the first letter in your last name.
Write the name of the first day of the week.
Write the name of the first school day of the week.
Write the first vowel sound on the chart.
Write the first letter in the alphabet.
Write the name of the first month of the year.
Turn to page twenty and write the first word on the page.
Write the title of the first story in your reader.
Write the name of our first president.
Write the name of the first president whose last name began with the first letter of the alphabet.

Directions should become more difficult as the children's information grows, and should be given in abundance on every grade level.

It is surprising how often deaf children completely ignore the instructions *do not guess* when taking achievement tests and attempt to answer each item regardless of difficulty, sometimes lowering their scores by so doing. To break children of this habit, teacher-made questions can be used, including items to which only the teacher knows the answer. Then, if any answer at all is attempted, it is a sheer guess, as the following items show:

My sister's house in Fulton faces—
north east south west
Mrs. John Doe's favorite flower is—
roses violets pansies peonies

When a teacher feels reasonably sure she has eliminated guessing, she may include items in her test which would be highly questionable if answered correctly, such as these:

The name of Socrates' wife was—
Penelope Cleopatra Xantippe Sheherazade
The concept of gravity came into existence in the year 1406 1525 1687 1743

When the children have learned not to guess, the teacher is ready to proceed with an explanation of the difference between guessing and reasoning by the process of elimination, through the use of such items as the following:

The lady who went to see her mother-in-law was—Miss Hope Miss Sharp Mrs. Stewart Miss Kemp
The animal eating the meat was a—
sheep wolf rabbit squirrel

If the children know the names of Columbus' ships but have not studied about Henry Hudson, they should be able to use the process of elimination to find the answer to this item:

The name of Henry Hudson's ship was—The Santa Maria The Half Moon The Pinta The Nina

The use of best-answer tests is also a stimulus to clear thinking. These can be made to suit the academic level of different groups, as follows:

Birds fly South in winter because—
(a) they have wings
(b) they like to fly
(c) they cannot find enough food in the North
(d) winters are cold

The main cause of the Revolutionary War was—
(a) the Stamp Act
(b) quartering British soldiers in the colonies
(c) a desire for freedom

(d) taxation without representation.

Arranging events in chronological sequence should also be started on the elementary level and continued throughout the grades to promote the use of judgment, with such exercises as the following:

Tom came to school.
He woke up.
Tom ate his breakfast.
He got out of bed.

Some Boy Scouts cooked supper.
The Boy Scouts went to camp.
They made a fire.
They went to bed.
The Boy Scouts ate supper.

Dr. Edwin Clarke[3] says, "We begin to reason by induction when we are small children. When a child pulls a few cats' tails and gets scratched each time, he soon draws the induction that 'Cats are animals that scratch when roughly handled.'"

Deaf children are also capable of doing inductive reasoning at an early age. An eight-year-old pupil of mine once had a nosebleed which I stopped by putting cold scissors on the back of his neck and bending his head backward. Later he picked a scab off his face and I stopped the bleeding by putting a small piece of Kleenex on it and removing it with cold water at recess. When the child complained of pains in his leg one day, I massaged it until it stopped hurting. Some time after that he asked me if I had formerly been a nurse. I told him I had not and wondered why he asked the question. He then reminded me of the things I had done for him and said, "I think you were a nurse."

Any teacher can find many opportunities for helping children with inductive reasoning if she is on the alert for them. In changing small units of measure in arithmetic to larger units and vice versa, children should be helped to make the proper generalization about when to multiply and when to divide. If necessary, a table such as the following may be constructed as an aid:

Name of the unit we start with	Relative size of the unit	Name of the unit we change to	Relative size of the unit	Process to use
inch	small	foot	large	divide
yard	large	inch	small	multiply
foot	large	inch	small	multiply
foot	small	yard	large	divide
ounce	small	pound	large	divide
pound	large	ounce	small	multiply

If pupils are still unable to make the generalization, the words which change from small to large can be underlined with one color and those which change from large to small with a different color, but as much as possible should be left for the child to discover unaided.

After children have studied about birds, hens, ducks, geese and turkeys and learned that each of them lays eggs, they should be able to hypothesize that an ostrich lays eggs, merely from its picture. Sometimes, however, children may use logical reasoning, but, for lack of sufficient data make questionable assumptions, as when a child says a rooster lays eggs.

Dr. Flesch[6] says, "You can't think without a store of ideas," and this is particularly true of inductive reasoning. Consequently, a teacher must make sure that the children have sufficient data from which to make correct generalizations.

Before a deaf child can be expected to know that roosters do not lay eggs, he must be taught the various names of male and female feathered creatures. Then he can compile specific information in a table form to use later in generalizing that only the female of a species lays eggs.

Name of female	Does it lay eggs?
duck	yes
goose	yes
hen	yes

Name of male	Does it lay eggs?
drake	no
gander	no
rooster	?

In deductive reasoning, we reverse the process used in inductive reasoning. Instead of starting with a number of particular facts and inferring a general rule from these, we use the syllogism, which is composed of a major premise (a general law), a minor premise and a conclusion. The total scope of deductive reasoning with all types of formal fallacies that occur when one violates the rules for constructing the syllogism is entirely too broad to be considered here. Nevertheless, forms of the syllogism can be used with deaf children to help them develop reasoning power.

In arithmetic one can use the following syllogism: All even numbers are numbers that can be divided by two without a remainder (major premise).

Twenty-four is a number that can be di-

vided by two without a remainder (minor premise).

Therefore, twenty-four is an even number (conclusion).

Of course, the teacher should not formulate the minor premise and the conclusion, but should lead the pupils to test various numbers to see how they conform to the major premise. If the number seventeen was being tested, the minor premise would be stated in these terms:

> Seventeen is not a number which can be divided by two without a remainder. And the conclusion would be a negative statement: Therefore, seventeen is not an even number.

Three of the most elementary rules about the syllogism are:

1. If both premises are affirmative, the conclusion must be affirmative.
2. If one premise is negative, the conclusion must be negative.
3. Nothing can be inferred from two negative premises.

Since syllogisms may have universal negatives as well as universal affirmatives for the major premise, we can use a major premise such as the following:

> None of the states that formed part of the U. S. when Washington became president was a state lying west of the Mississippi River.
>
> For the minor premise we can take the name of some state that lies west of the Mississippi River, such as Missouri.
>
> Therefore, Missouri was not one of the states when Washington became president (conclusion).

One dictionary definition of thinking is remembering, and the ability to remember is basic to all types of reasoning. It has been said that unless we remember, we cannot understand. Therefore, as soon as any new information has been taught, children should be given opportunities to incorporate it into previously learned material in order to assimilate it thoroughly and make it available for new sources of knowledge.

The questions in "Test Your Horse Sense" by Dr. George W. Crane which are published in some newspapers not only furnish excellent material for this type of thinking, but also provide a source for ideas which teachers can adapt to the particular subject matter they are teaching.

For example, after children have been taught the sounds animals make and the names of their dwelling places, they may be asked to match the dwelling places on the left with the characteristic sound on the right as follows:

(a) Fold	(1) Chirp
(b) Corral	(2) Bow Wow
(c) Sty	(3) Whinny
(d) Sanctuary	(4) Baa
(e) Kennel	(5) Oink

To summarize, the deaf child's power of reasoning can be greatly improved by well-planned exercises on the part of the teacher directed toward these ends:

1. Providing a wide range of worthwhile experiences.
2. Building of concepts through the use of all visual means—real objects, pictures, films, dramatization, demonstrations, experiments, etc.
3. Establishing clear-cut associations between verbal concepts and all visual-concept information.
4. Promoting the ability to detect verbal absurdities as well as picture absurdities.
5. Specific training in getting the meanings of words defined in context as well as clearly defined steps in the use of the dictionary.
6. Training in the use of analogous reasoning.
7. Developing an understanding of the concept of reciprocal relationships at successively higher levels.
8. Providing for more practice in following directions which become progressively more complicated.
9. Practice in reasoning by the process of elimination vs. guessing.
10. Improvement in judgment through the use of specific types of tests designed to evaluate the use of judgment.
11. Introduction to the use of inductive and deductive reasoning processes.
12. Demonstration of specific ways in which transfer of similar bits of information can be made from one situation to another situation.

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Factors Affecting Parents' Decisions

GEORGE W. FELLENDORF

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I welcome this opportunity to present to you some ideas on the factors which affect parents in their choice of an educational program for their deaf children. Our discussion will involve more than just the choice of schools for our deaf children to attend. It will include the consideration of a basic philosophy of what we hope for our children and what we expect from them. Decisions along this line will often take place long before a child even reaches school age.

Thus, we shall not limit our thoughts to the formal portion of our children's education. Instead, we shall try to point a direction which we parents should take in order to help our children become educationally, socially and vocationally integrated into a hearing world.

If it is not our ambition to help our children live in a hearing world, then perhaps we should re-examine our membership in the Alexander Graham Bell Association for the Deaf, whose primary objective is "to promote the teaching of speech and lipreading to the deaf." We are not preparing our deaf children for a silent world, but for a hearing and speaking world that has opportunities for all who are willing to seek them.

As parents, we have been properly impressed with the fact that goals for our deaf children must have a practical basis. We must keep our feet on the ground, and not impose unrealistic ambitions that may create frustration in our children and ourselves.

On the other hand, I submit that while our feet must be kept on the ground we should have our heads in the clouds, otherwise we shall not challenge our children to an achievement that may be within their grasp, and missed only because they have not been encouraged to go as far as they can.

To support this remark, I submit a comment I received this year from the parent of a 16-year-old deaf child who has successfully found her way in a hearing high school. The mother wrote, "Our child is not herself extraordinary, she has merely had extraordinary opportunities." And she might have gone on to say that her daughter grasped those opportunities, and with patient help from her loving parents, she made the most of each one of them.

Let us keep our feet on the ground, therefore, but stand on our tiptoes and reach up as high as we can when encouraging our children for the future. It is this philosophy which must be turned into action at the earliest possible age. It is this philosophy which must govern every decision we make regarding our children's education.

Before going further, I want to emphasize that our discussion today is on deaf and severely hard of hearing children. We are referring to children whose losses are so severe that they cannot succeed without specialized training and the use of every sense which God has given to them in order to understand and to be understood by others. In particular, the children that we are talking about must use both their eyes and their ears in order to accomplish their integration into a hearing world.

The groundwork for the future of each deaf child is laid very early in life by the parents. In some instances, the parents decide they are not interested or capable enough to accept the fact that their child is deaf, and they turn the responsibility over to someone else. They perhaps feel they have done their duty by bowing to their own inadequacy and placing their child in "better hands."

Fortunately there are many other parents who decide to accept their full responsibilities as parents, regardless of their own inexperience with the handicap involved. They recognize the need for love, security, discipline and training which it is their responsibility as parents to provide. They accept the fact that they don't know all the answers, that they are going to have to rely on others, and that they will make their share of mistakes. But they accept all these as challenges to carry out their God-given duties as parents of a little deaf child, and on this basis they get to work.

Mrs. Spencer Tracy has said, "Early parent education is the hope for the deaf."[1] Thus a deaf child's education begins with his parents' education. When parents of a deaf infant are advised to wait and not do anything for a few years until the child is old enough to be enrolled in a school for the deaf, they are being tragically misled. Their child's education can begin immediately through their own education, and any advice to the contrary is criminal.

In its earliest stages, therefore, the educational approach for our children begins with our own education. As parents we must talk, talk, talk to our children. We must keep giving out, and not expect too much to come back at first. We must look at the whole child, not just the deafness, and we must help our children to develop wholesome habits of per-

1. Mrs. S. Tracy, "A High Goal For The Deaf," Reprint #579 Volta Bureau.

sonal behavior that will help them ready themselves for more formal schooling in the near future.

In the broader educational area, another one of the important functions of parents is to present their desires antd demands as to the goals for their children. These will become the goals of our educational system. Regardless of the school system in which the child is placed, parents must not sit back and assume that whatever the school says or does is beyond question. Rather, the parents should be aware of what their children are being taught and how it is being taught. They should participate in parents' groups, in personal meetings with the teachers and other faculty members, and they should become familiar with the literature put out by organizations concerned with speech, hearing and education. This is one way parents can be informed and thus be in a position to make some kind of an evaluation of, and offer constructive comments on what is being planned for their children.

If we as parents accept something less than the best that is possible for our children, it is our responsibility, not the school's. Not every parent can or should train to be a teacher of the deaf or a speech therapist, and I do not mean to imply that this is necessary or even desirable. On the other hand, I believe all of us can read and write, and it is part of our responsibility as parents to use these skills to find out what is going on in the field of the education of the deaf. If we are not satisfied with what we see, then we ought to say something.

Many of the educational advances in the last hundred years in this country have come about as a result of the interest of parents who expressed their dissatisfaction with the products of the educational system.

Parents get what they ask for! If they don't ask, they may not get very much. I doubt that anyone would submit that the educational system for the deaf in this country, whether it be in schools for the deaf or in schools for children with normal hearing, has reached the ultimate ideal goal which we all seek, namely, the complete and total integration of our deaf children into the hearing world. Therefore, we as parents must continue to seek improvement by cooperation with the schools and insistence upon the hearing world approach. I firmly believe that this goal will be reached, if not for our children, perhaps for their children, because science, education and parent interest can do it.

May we consider four major areas in the selection of an educational system which will include a particular school for a deaf child. These are: the child, the home, the school and economic facts.

Let us keep in mind the need to look at the whole child and not just the handicap as we plan his future. It is one of the great weaknesses of parents of deaf children that they concentrate so heavily on the handicap and its alleged effect upon the child that they do not consider the other characteristics of the child.

I am sure that there are today children in schools for the deaf who should not, and would not be there had their parents completely and properly evaluated the over-all child. On the other hand, I am sure that there are children whose parents have insisted that they attempt to succeed in a hearing school who would have placed the child in a school for the deaf had they completely and realistically evaluated all the emotional, educational, social and physical facts of life.

Many times we attribute abnormalities in our children with respect to discipline and emotions to the deafness, when the primary problem is not the handicap, but the manner in which we as parents have approached it. We aggravate a situation and possibly generate a problem which did not exist simply because of our own emotional setup, not the child's.

But if we have normal deaf children, with good health, whose situation is not severely aggravated by a multiple handicap, we can assume that these children might be handled in a number of ways, educationally. Naturally, we turn to specialists to tell us whether or not our children are normal in all respects other than their ability to hear. But if we have been assured that hearing is their primary problem, then we can go on to the other factors in the selection process.

But as we leave the subject of the child himself, may we emphasize this extremely important fact; that the degree of deafness should not be the primary factor in the selection of an educational system. For background for this remark, I refer to a study conducted by Josephine Timberlake and Ruth Montgomery in 1940.* Trying to determine why some deaf children succeeded in hearing classes when others did not, it was well established by the authors that the degree of hearing loss was *not* a factor. In fact, the authors state, "Of the college and university graduations, approximately three times as many were accomplished by students unable to hear speech at all as by those who could hear loud speech." Let us not contract a case of "db-itis," therefore, and let the findings of a pure-tone audiometer determine our children's futures.

The situation at home must also be considered. Can and will the parents cooperate with

*Timberlake, Josephine B. and Montgomery, Ruth Bolen, "Why Do Some Deaf Students Succeed Among Hearing Students?" *Volta Review*, Nov., 1940, p. 757.

the school and the educators? Are they emotionally, physically and intellectually able?

Undoubtedly, any parents listening to this paper would consider themselves to be properly oriented to work with the school for the benefit of their child. On the other hand, this may not always be the case for reasons that are not within their own control. An educational program may involve whole-hearted and intelligent cooperation to an exceptional degree on the part of the parents. If the parents are not prepared to give this cooperation, then that educational program may not be in the best interest of their child.

In the home, we must give consideration to the other children involved. Will a particular educational approach put an unwarranted burden on the other children? Will it create a situation with the deaf child, that because of his handicap, he will get so much attention that a social antagonism might be created which would generate more problems? The situation should also be analyzed with regard to the grandparents and other relatives. I am sure that there are many instances which all of us have seen where well-meaning but uninformed relatives have hindered rather than helped efforts to raise a deaf child properly.

In considering the school itself, we should quickly establish the objectives of the school and see if they challenge the children to use all their talents to become good self-sufficient citizens in a hearing world. We should examine the graduates of the school, rather than the beginning classes, to see what sort of preparation has been given. We should talk to the faculty, and see if we can sense the dedication and competence that we know are going to be necessary if our children are to bridge the gap to a hearing world.

I believe it important also to find out if the faculty is convinced that children can be orally educated. In my own experience, I have run across a teacher, in an accredited school for the deaf, who when asked why he spoke softly to the children during class, made the remark, "Well, they can't hear me anyway, so why should I speak louder?" This attitude belongs to the middle ages, and as far as I was concerned, that is where this teacher belonged too.

When we examine a school for the deaf, we should speak with the parents of the students to find out their impressions of the school, trying of course to eliminate the personality problems which undoubtedly arise with different children. The best advertisement for a product or service is a satisfied customer—a good advertisement for a school for the deaf is satisfied parents who have set a hearing world goal for their children.

Last, but not least, we should look for emphasis upon living language in the schools for the deaf—the kind of language that our children will need to get along with others. Ann Sullivan, famous teacher of Helen Keller, wrote a personal letter in 1894 which said, "Language grows out of life, out of its needs and experiences."* Miss Sullivan had begun her teaching program on a formal basis, but rather quickly learned that living language was a product of everyday occurrences and it was this kind of language that a child needed and wanted. Helen Keller stands as a monument to the success of this approach.

If we are considering a public or private hearing school for our child, let's examine the attitude of the principal and teachers to see if they are accepting our child as a challenge and not as a burden. Are the classes reasonably small in order that the child will get some kind of personal attention? Is there available to the child special speech therapy by someone who has worked with deaf children, and are there available sources of outside tutoring? The tutoring will almost undoubtedly be necessary at some point along the line, and of course, the speech therapy will probably be necessary all the way.

If these factors are not available, we should seriously question whether we are putting our child in an intolerable situation by throwing him in with other children who can hear normally and may not have the patience to work with their handicapped classmate for an entire 12 years of public school.

As for economic facts, only one comment. Let the "haves" among the parents help the "have nots" where there is real need, and economic factors will become an unimportant factor in our children's education. How often, however, have parents cried poverty when discussing costs of transportation, tuition and hearing aids, and have had adequate resources when it came to clothes, hobbies and entertainment?

Perhaps the first contact of the parent with a professional person is the general practitioner or pediatrician. In fact, it may be from this source that the parent first learns of the deafness. If the doctor is understanding and well informed on the subject of deafness, he will advise the parents to confirm his medical diagnosis with more detailed tests by an otologist or at a reputable clinic, and then he will help them accept their problem at face value. This means immediate planning for the child's education, not continued searching for cures or the all too common advice to "Wait awhile and he will get over it," or "Don't do anything until he is five and then put him in a school for the deaf."

The doctor must immediately recognize that the case of a deaf child involves both the child and its parents. In fact, at the outset it

*Helen Keller, *The Story Of My Life.*

is generally more a parent problem than a child problem, for parent acceptance is basic to any future plans for the child. Without it little success can be expected; with it, almost anything can be accomplished.

The doctor who truly proposes to help the deaf child, therefore, is one who will help the parents themselves first. He will help the parents to understand the psychological aspects of deafness, and will direct them to the educational profession for the next step. This may be a nursery school, the John Tracy Correspondence Course, or special tutoring, but it is a positive step in getting the child and his parents started on the long but rewarding road to the future.

The otologist may be the next professional person to see the deaf child. His specialty is the diagnosis, care and treatment of various types of medical problems involving the ears. He is a specialist in medicine, not education or psychology. He tends to see each case as an emergency in which some action is necessary, whereas, in the case of a nerve-deafened child, there is, as yet, no medical approach that will result in any recognizable improvement in hearing. In discussing the otologists as a group with many other parents, I regret to say that I have come to the conclusion that, more often than not, the otologist has not been a source of good advice to parents. This is an unfortunate, perhaps tragic commentary, because the "ear doctor" is considered as the real expert in all matters relating to hearing. And yet he is rarely an expert in education, and this is the *real* challenge for the parents of deaf children.

This remark about otologists is not intended to disparage in any respect their obvious and valued contributions to the medical profession. It is intended to point out, however, that the otologist who is not acquainted with the educational aspects of deafness is sometimes a worse source of advice than a layman who understands that the education of the deaf can and should be started at the earliest possible age.

We must respect and admire the physician who tells his patient the truth, and does not hold out false hopes. But to the parents of a deaf child he should not stop with the statement, "There is no cure." If only he would proceed to build a bridge, right there in his office, from the medical to the educational side of deafness; from despair to hope and promise; how much it would mean to those parents!*

A psychologist is sometimes consulted by the parents of a deaf child because there is a strange foreboding that there is more than deafness wrong with the child. It is not uncommon for parents to suspect that a lack of intelligible speech is the result of some brain damage, or possibly a tendency to remain babyish long past the time when it is considered cute.

A psychologist is presumably interested in the educability of his little deaf patients after he has diagnosed their problem as deafness. He should be in an excellent position, then, to give the parents sound advice. If he is not acquainted with the field of education of the deaf, however, he may also try to pass off the case as one which will improve with age, or he may faintly remember "*something* about *some* school" where they teach the deaf to talk with signs.

Some parents may find their way to a speech therapist and seek advice. The competent speech therapist will be in a good position to help since articulate speech is a necessity for successful integration into a hearing world.

But this may be a good time to mention that speech is a secondary problem to the deaf child. Language is the first problem. If the child does not have a language in which to express his desires and thoughts, he will not need speech.

The speech therapist may expect that the child already has some language. Then her job will be to correct the problems of articulation, rhythm, volume, etc., which may exist within the framework of the child's existing language.

If the deaf child has not acquired language, however, the therapist may be at a loss. In some teacher training schools, the teaching of speech to the deaf is a problem for the special education department, not the speech department. Thus, a speech major may graduate from college and go into practice without ever having worked with a deaf child. This therapist is not equipped to work with a deaf child. Naturally, experience can be gained after working with such a child, and the conscientious therapist will make it her business to learn more about the special techniques for teaching the deaf.

It would seem wise, however, when approaching a speech therapist for her services, or her advice, to ask, "Have you ever worked with deaf (not hard of hearing) children?" If the answer is "Yes," then try to determine if she recognizes the necessity of training residual hearing in teaching speech to the deaf. Make sure she accepts the great potential that exists in a child who has even the slightest amount of hearing.

If her answer is "No," then the parent should seriously consider looking elsewhere for help.

*Harriet Montague, "What the Otologist Should Know About The Educational Problems of Deafness;" *The Laryngoscope*, Vol. 56, No. 6, June, 1946.

CONCLUSIONS

To summarize, I will briefly restate my remarks.

Parents must be encouraged at the very outset to challenge their deaf children to do the very best they can. They must go out of the way to provide extraordinary opportunities and help their children in every way possible to make the most of those opportunities.

In selecting a program of formal education, the child, the home, the school and economic facts must be considered. But the whole child, not just the deaf child, must be placed first on the list. His entire life will depend upon his parents' decision. It should not be made lightly or on anything but the best information and advice available.

Sources of professional advice include the general practitioner, pediatrician, otologist, psychologist and speech therapist. Based upon parents' comments, however, it would appear that it is not unusual when one of these specialists is not well enough oriented to bridge the gap from the medical to the educational side of the problem. Seek out the parents of successful deaf children for information and inspiration, *both* of which are absolutely essential to a wise choice on any aspect of a child's future.

Let us as parents make our choice early in our children's lives. Let us make the choice that they are going to grow up and live successfully in a hearing world, and that we are not going to accept anything less as a goal.

Inormation, inspiration, extraordinary opportunities and a little deaf child—these are the ingredients which we must mix under the guiding hand of a loving Almighty God.

A Short Term Aural Rehabilitation Program

THOMAS H. POULOS

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As one notes the results of numerous hearing surveys, it is not difficult to ascertain that there are substantially large numbers of school children in the United States who are acoustically handicapped. The exact number that may be classed as hard of hearing cannot be known, as determinants of degree of hearing loss would indicate various figures. It depends on where the line is drawn in terms of decibel loss; percentages may range from 11% as found by Peck and Samuelson[4] to 1½% as was determined earlier in a more conservative report.

In the last ten years an increasing number of city-wide or state-wide hearing surveys have been made. These surveys have all pointed out the serious social significance the problem of the hard of hearing child presents to a community.

As a result of the continuous hearing surveys being conducted in the state of Michigan, more and more children were referred for rehabilitative measures to local and state agencies.

The state school for the deaf, having as its main enrollment those children who were classified as deaf, was faced with the problem of offering some help to the hard of hearing child. This child had language, had some hearing, often was a failure in public school, but was not a candidate for a school for the deaf. Yet the local community, with no special facilities for serving this child, needed assistance. In those cities where day schools were available, this local problem could be met.

Children whose hearing losses and speech hearing evaluations indicated that an individual hearing aid would assist them needed follow-up rehabilitation. To be effective, it needed to be rapid, and yet complete.

In answer to this problem, an experimental program was set up at the Michigan School for the Deaf. This included:

1. Audiometric and speech hearing tests
2. Otological follow-up
3. Hearing aid evaluation
4. Recommended attendance at a short-term session for hard of hearing
5. Return to public school after successful attendance at a special aural rehabilitation session

In the short-term class for the hard of hearing, children received major instruction in the care and use of the individual hearing aid, auditory training and lipreading. While enrolled in the class they carry on with their regular school subjects. When necessary, they also receive speech therapy. At the end of this short-term session, these children return to their respective home town schools.

Before enrollment, each pupil is fitted with an individual hearing aid to receive full benefit from the short-term class. Several sessions of these classes are offered each school year. Each session is made up of pupils of various ages and school achievements similar to the enrollment found in a small special class in the typical small day school.

Board, room, laundry, instruction and general medical care are provided without charge. Parents provide transportation, clothing, spending money and maintenance costs for their child's individual hearing aid. The hearing conservation service of the Michigan Department of Health assists in the purchase of hearing aids for children who are recommended for hearing aids, but whose parents are financially unable to purchase them.

The unique feature of these short-term sessions is the availability of aural rehabilitation for hard of hearing children during the school year without any disruption in the school achievement of the child. The child arrives from a public school in his home town and returns after the rehabilitation term to his former school.

Follow-up services for the pupils enrolled in the short-term classes are conducted by the Michigan School for the Deaf and the Michigan Department of Health. Further assistance is rendered each child as the need requires.

The program was instituted at the school in February of 1950. Since that time 38 children have enrolled in these sessions each year.

Immediately upon returning the children to their home schools, information was sent the child's regular teacher, the school nurse, the principal and the parents. This information included:

1. Letter to the school—

This letter includes information relative to academic progress, Stanford Achievement results, as well as the special information sent to the parents and the nurse.

2. Letter to parents and public health nurse—

This letter includes information of progress made during the special session in the care and use of the individual hearing aid, and suggestions as to how the parents and others might help the child improve his lipreading ability. Information as to special seating in the classroom is also suggested.

3. Report from the speech therapist—

A special report dealing with the nature of the speech therapy, and suggestions for further help are sent the school, if the therapist had worked with the child.

4. Child's own self-completed kit of information—

During the session he worked on a special teacher-prepared workbook dealing with the problem of hearing, care and use of the hearing aid, interpretation of his own audiogram, hints for better lipreading, how to listen effectively, as well as special vocabulary normally encountered when involved with a hearing aid, its fitting, its parts and supplies.[1] Other workbooks completed by the pupil and taken home are *Lipreading Workbook to Accompany Hearing With Our Eyes Books I* and *II*, by Ena G. Macnutt.[2]

In the follow-up to the service that was offered, questionnaires were sent to each home school of former enrollees in the program. This was done each year for the students enrolled the previous year. Results of the follow-up questionnaires indicated those cases needing *earlier* refresher sessions. After the first year of the hard of hearing institute, refresher sessions were included in the regular yearly schedule.

Each session is about six weeks in duration. In those special cases where youngsters needed additional work, attempts were made to have them attend an additional session, thus making it a double session in one school year.

The aural rehabilitation class followed a schedule which included in the morning session: hearing aid care, lipreading, tutoring in academic subjects, speech (twice a week) and auditory training (three times a week.) The afternoon sessions included more lipreading, tutoring, speech and auditory training.

INSTRUCTIONAL PROGRAM

Instruction on the care of the individual hearing aid includes a vocabulary of the names of the parts, how to care for and clean the ear mold, how the aid works, simple trouble shooting and where repair service can be obtained. There is also a discussion of who wears a hearing aid, to bring about a psychological adjustment to the idea of wearing a hearing aid.

The human ear and what it can do, conservation of hearing and how sound helps us are also discussed.

Lipreading instruction is given under a concentrated program. These practice and drill sessions are systematically planned for the two formal daily sessions and for informal situations throughout the school day. Very helpful materials include *Hearing with Our Eyes, Books I* and *II*, by Ena G. Macnutt.

Auditory training sessions follow a similar concentrated schedule. The general outline involves four major stages: the development of discrimination of gross sounds, broad discrimination among simple patterns in speech, finer discriminations for speech and appreciation of full sound patterns encompassed in the immediate environment. Very helpful materials are numerous recordings suitable for children, and *Auditory Training, A Handbook for Teachers.*[3]

In the speech program there is a very careful preliminary speech diagnosis. Then an individualized corrective program is planned for each child by the special teacher and by the staff speech therapist.

Academic subjects are handled on a small group basis and an individual basis, depending on the number and age of the pupils enrolled. The students bring school books from their home schools to study. Special subjects, as vocational training, gym and typing are incorporated in the special school program of the regularly enrolled pupils when needed.

Each year follow-up questionnaires are sent to the home school of each former enrollee. For a sample, a tabulation of replies to the questionnaires received over a four-year period was compiled. Of 116 questionnaires

sent out during this period, 87 were returned, with the regular teachers of the former enrollees replying. The results of the survey are shown below:

Wear individual hearing aid in school?	Yes 84.8% No 15.2%
Wear individual hearing aid outside school hours?	Yes 60.8% No 27.8% Didn't know 7.6%
Reasons for not wearing individual hearing aid:	
Broken	5.1%
No batteries	8.9%
Ashamed of it or self-conscious	12.7%
Didn't want to wear it (too much bother)	7.6%
Doesn't wear at play	3.8%
Waiting for new aid	1.3%
Too loud (hearing improved)	3.8%
Lipreading makes unnecessary	2.5%
School work:	
Satisfactory	52.9%
Fair	13.8%
Unsatisfactory	29.9%
In remedial class	2.3%
*Receiving extra tutoring in school subjects?	Yes 22.8% No 62.9%
*Receiving speech therapy?	Yes 40% No 48.6%
Value of lipreading: (As rated by teacher of pupil)	
Indispensable	13.8%
Helpful socially	66.7%
**Not helpful	9.2%
Doesn't know	3.4%
Participation in extra school activities, clubs, etc.	Yes 80.5% No 19.5%
Special aural rehabilitation sessions helpful?	Yes 74.7% No 10.3% Unable to answer 13.8%
In which ways were sessions helpful?	
Emotionally	50.6%
Scholastically	43.7%
Socially	55.2%
Would child need a refresher course?	Yes 48.3% No 33.3% Doesn't know 14.9%

*These questions were not included in earlier questionnaires but did appear on later forms. 35 questionnaires were returned which included these questions.

**Reason given: Child depended on hearing rather than on reading lips.

For those instances, for example, the 15.2% who were reported not wearing the hearing aid in school, special letters were sent to each public health nurse or to the Hearing Conservation Section of the Michigan Department of Health. They inquired as to specific causes of failures to wear the aid and were able to correct the situation. Usually it was found lack of funds for upkeep was the main reason. In those cases where additional training was necessary, subsequent enrollment in another session at the Michigan School for the Deaf was arranged.

Letters from parents and teachers of former enrollees have indicated great appreciation for this type of aural rehabilitation as a special service to the hard of hearing child in the regular public school. The letters have been frank and most gratifying.

The special short-term program for hard of hearing children originally planned as an experimental program is now in its tenth year; a total of 360 children have been enrolled in it.

1. Pickett, Dorothy and Bergstrom, Frances, *The Magic of Hearing.* Michigan School for the Deaf, 1959.
2. Macnutt, Ena G., *Lipreading Workbook to accompany Hearing With our Eyes, Books I & II.* The Volta Bureau, 1959.
3. *Auditory Training—A Handbook for Teachers,* Michigan School for the Deaf, 1958.
4. Pintner, R.; Eisenson, J.; and Stanton, M., *The Psychology of the Physically Handicapped,* Appleton-Century-Crofts, Inc., New York, 1941.

Invited Papers II

Presiding: Fred L. Sparks, Jr., Superintendent, the Central New York School for the Deaf, Rome, N. Y.

A Day Class Program

B. JACK NEAS

TRENDS IN ACHIEVEMENT AND CURRICULUM GROWTH IN A DAY CLASS PROGRAM

Mr. Neas is head teacher in the Nashville-Davidson County Acoustic classes, Nashville, Tenn.

All the material discussed in this paper has grown out of my experience with a particular day class program in Nashville and Davidson County, Tenn.

Out of the belief that the handicapped child should be educated within the framework of the public school, *when possible,* came our classes in the Davidson County schools. Classes are held in the Julia Andrews School. There is a total enrollment of 310 children in grades one through six. Fifty-six of these children are acoustically handicapped. They range in age from 6 to 14 years.

Each child is assigned to one of our five special classes. Some children remain in the special classes during the entire day, some part of the day, and others are assigned full time to the regular classroom. This year we

have children doing full- or part-time work in all six grades.

In setting up classes each fall we encounter the problem of where to place each child. I am quite sure we are not the only ones facing this problem yearly. We find ourselves adjusting and readjusting children so they will fit in our pattern. As we are hoping for eventual regular classroom placement, we have found that we must rely a great deal upon the standards of achievement set up in the regular classroom. This means that our teachers must be in constant contact with the teachers in the classroom. They must be aware of the reading, language arts, arithmetic and every subject presented in the classroom. Because of this, we find we are continually changing goals in our classes to match those in the other classrooms. This is not an easy task, and in order for a teacher to do this she must be very flexible in her total planning.

We have found in setting up our classes and planning regular class assignments for students we must consider each child individually. Many factors must be taken into consideration in determining his achievement level.

First: Degree of hearing loss must be considered, but along with this, and I think more important, how well does the student use the hearing he has? Is he a good hearing aid user? These two questions give us more insight into his acoustic problem. All persons working with the child in the classroom and clinically answer the above statements and give their impressions.

Second: Speechreading and speech fluency are often considered together. Conversation in the regular classroom goes on at a rapid rate. We are quite concerned with each child's ability to perform in this communication hookup. His specific speechreading ability is important, as is his ability to give back individual words in speech, but more important to us is how he holds up conversationally. If he is to benefit from the oral language stimulation all about him, then he must be able to receive and send signals as rapidly as those about him.

Third: His over-all learning ability must be considered. (I might interject a statement here. All of our children are evaluated by the Bill Wilkerson Hearing and Speech Center before they are placed in this program. They have had complete audiological work-ups, as well as medical and psychological.) As to his learning ability, again we are not so interested in his performances in isolated situations, but in his general ability to perceive, understand and gain knowledge from group situations. If he is to progress in the regular classroom this is the most important ability he must have. The regular classroom teacher, with her full load of children, will not have the time to see that he gets a great amount of individual attention. Therefore, he must be able to absorb new ideas rapidly in a group situation.

Fourth: We continually test our children's performance in reading as well as all other areas. We use the Stanford Achievement Tests, California Reading Tests, vocabulary scales and isolated items to test general over-all performance. We depend and lean a great deal on the regular classroom teacher and special teacher for impressions of the children. These again are always considered when deciding upon a child's achievement.

Fifth: We find you must consider the child's chronological age, but we do not place the emphasis on it we once did. We have found that our children can and do adjust to the difference in ages. The hearing children accept them and seem to disregard the differences in ages. We found that when we ceased to put stress on age difference, the children did likewise.

Sixth: We have discovered one factor that is most important in placing children in the regular classroom. Is this child a *social being?* Is he an outgoing child rather than an introverted child? We have found that the children who are introverted do not perform at all well in the regular classroom. They like the small circle in the special classes and hate to leave them. We find that their adjustment in the regular classroom comes much slower and we cannot expect as much over-all achievement the first year as with the other children. This does not upset us and we forewarn the parents to expect this phenomenon.

Up to now I have mentioned items that appear rather intangible in nature. I would like to discuss some of our findings and impressions concerning our children's achievements in and out of the regular classroom.

Our sampling is small and I would not attempt to draw any final conclusions from them, but at least they are a beginning. I believe that one thing that is lacking in the entire area of the acoustically handicapped child is basic research in the areas of curriculum development and achievement. The general lack of curiosity among teachers of these children is one area which needs developing. I hope that we are making some beginning in this area in the Davidson County Acoustic Classes.

This is the second year that we have had a large number of children assigned to the regular classroom. We knew that achievement-wise they had done well over the accepted one-half year improvement in the special class. (Many educators of the deaf accept one-half year improvement academically as sufficient educational gain in a given school year.) The last year they were in a special class they

had a total over-all gain of one year, two months. During their last year in the special class they also took some subjects in the regular classroom. Their first year in the regular classroom we were quite anxious to see if they could hold their own and at least make a steady gain or improvement on achievement tests. We found that the 12 students who were assigned full time to the regular classroom the first year made an average gain of seven months in over-all achievement. In the area of reading where we put the most emphasis, the over-all average was an improvement of six months. In arithmetic, they made an average gain of seven months. In the area of language the average gain was eight months.

We were very pleased to see that the group was moving upward on the continuum. The language portions of the Stanford Achievement are not very revealing, but we would like to believe the reason for more growth in this area was due to the daily oral contacts in the classroom.

In reviewing the achievement scores for the group after the second year in the classroom, an over-all average gain of eight months was made. Again the greatest gain was made in language with an over-all average of nine months, reading eight months, and in arithmetic an average gain of seven months.

When the achievement scores were plotted for the individual children, it was interesting to note that the discrepancy that often occurs between the language and spelling scores, when compared to the paragraph meaning and word meaning scores, was not present in the group. The greatest gap was a nine-month spread for two children in the group. It was interesting to note that the average amount of educational retardation was only two years and one month the first year and two years two months the second year in the regular classroom.

A group of youngsters whose average age is twelve years, two months were found to be three years, three months educationally retarded when their scores were averaged. This is a combined group of children; three coming up through our nursery program and nine being public school failures due to hearing loss. Another group with an average age of ten years, one month were found to be one year, seven months educationally retarded. We think this figure is meaningful, as this is the first group of children to come up through our nursery and preschool program at the Bill Wilkerson Hearing and Speech Center. These children have been grouped together mainly because of their severe hearing loss. This group will be most interesting to watch as they continue in the program, particularly as they take part in more of the regular classroom activities.

Perhaps the most interesting is the last group. The children comprising it are four children with hearing losses nearing the 70 db line and six children who came to us a year ago as failures in the public school classrooms across the county. In seeking the causes for failure they were all found to have moderate hearing losses and could benefit from individual hearing aids. The four children in the group have come up through our nursery and preschool program. As many of the children from the public school classes had gone through traumatic experiences in the classroom, it was felt that they needed a rather permissive atmosphere in which to grow. The other four were felt to be somewhat rigid as well as introverted and might benefit from the same type of classroom atmosphere and become more oral in their communication.

With what testing we were able to give in September, it was determined they were all reading near the middle half of the first grade. The special teacher geared all of her work in the classroom to this level of work. We let down most of the barriers and permitted almost anything to happen, even including at times CHAOS. These children began to like school and their behavior improved. They became fascinated with reading as well as learning new language.

These children last year had an average age of eight years, seven months. On the Achievement Test (the Elementary Battery) they achieved an average score of second grade—third month. This makes the degree of educational retardation about one year, two months.

This year, three of the group attended the regular classroom on a full-time basis, two being placed in the second grade and one in the third grade. All three made excellent progress, with an over-all average of ten months. Two of the group will be returned to their home school and the other will remain at Julia Andrews next year so that we may keep a closer check on her.

The four who were placed with the group in hopes that they would be stimulated orally have made great strides both in speech output and language growth. They will take some subjects in the regular classroom next year. We feel this would not have been possible without the experience in a permissive setting for one year.

I believe the most important item concerning achievement that we could cull from the above information may be stated, quite simply: *The acoustically handicapped can and do make progress in the regular classroom.* It is not always as rapid as the growth in the special class, but it does happen.

Another statement that is very important is that the program must remain flexible at all levels. There must be freedom to shift children back and forth from level to level as

well as in and out of the regular classroom. It has taken time to educate the regular classroom teacher, the principal, the county Board of Education. Our greatest efforts were put forth with the hearing children and their parents, as we felt our success depended upon their reactions. We are continually working with all of these groups. Any program such as ours would fail if these steps were not taken.

The teachers and I have learned a great deal from our program at Andrews, also. We have discovered that the so-called traditional methods fall down in our type of program. Since this occurs, we must continually experiment and change our methods. We do not use any one method for any particular area of work, but find one that fits the immediate situation and use it. We are not afraid to experiment with any new idea that anyone suggests. We have learned the value of gearing a language program to a good basic reading series. By being consistent in our reading program throughout our curriculum, we find that language, speech and auditory training can mold into this important core subject. Our reading manuals give us an abundance of suggestions for these related areas. Most of all, we have learned far more from the regular classroom teachers than we have from any lectures or methods courses in teaching the acoustically handicapped child.

We have felt the need in our program for a great deal of basic research in the way the acoustically handicapped child learns. Are there some short cuts that we are not using? We have barely scratched the surface of the language and reading problem. We do not have enough studies to show us why some work and some do not. Are we stressing the visual too much over the auditory? Are we doing the best job that can be done in all the subject areas? Do we ignore the whole child and only worry about achievement and educational growth? These are questions my teachers and I are interested in, and hope to find the answers for.

As a supervisor, I would like to make one statement in regard to teacher morale. *I have learned that if you want your children to grow in knowledge and skills, then your teachers also must be showing growth in these areas.* You must continually make them a part of any experiment or new idea. If you can arouse their curiosity then there will be a great carryover to the daily work with the children.

Last year, we wanted to experiment with some new concepts in teaching language and with some ideas in testing vocabulary growth. By implementing these as group projects, I found many of the discussion items being tried in the classroom. As a group, teachers became interested in the linguistic approach to teaching language. At present, we are experimenting with this at all levels, and the teacher in the classroom is doing this, not the supervisor. The same is true with the testing of vocabulary. The teachers are doing the experimenting, showing initiative as well as interest; so the project is well on the way to success.

For too long we have restricted the term achievement to the child. If we are to expect our children to achieve, then we must start at the top of the ladder with the teacher. She will mold and build only if she is stimulated. Make her an integral part of your program. Let her experiment and use her own initiative and you will note great strides in your children's achievement records.

The Multiple-Handicapped Deaf Child

SISTER M. PAULINE

Sister Pauline is Primary Supervisor at St. Mary's School for the Deaf, Buffalo, N. Y.

It was Bishop Spaulding who said, "Shun not the Struggle—Face It—'Tis God's Gift." Teaching is a struggle, isn't it? This is true of teaching not only hearing children, not only children who are deaf, but is especially true of teaching deaf children who have other involvements—the multiple-handicapped deaf child.

The struggle is twofold, first for those who try to teach each child in spite of his multiple handicaps, and then the struggle of the multiple-handicapped child to learn—to learn in spite of his diminished or distorted senses. In facing the struggle, those who teach and those who learn, do accept God's Gift, and fulfill their obligations as human beings.

Until comparatively recent years, teaching deaf children was considered one of the most arduous and challenging occupations available, with the small group of deaf-blind being rated the most difficult of this grouping. With the advent and use of antibiotics, improved medical and nursing care, better dissemination and knowledge concerning the needs of the deaf, we find ourselves faced with a new type of challenge—that of teaching the multiple-handicapped deaf child.

Now, although it is beneficial to know the *what* of a child's disability it is usually not the role of the teacher to be a diagnostician. In addition it is helpful to know the *why* of a child's condition. But, more than the *what* and the *why*, the biggest question that looms on the teacher's horizon is the *how*. *How* can I reach this child? *How* shall I approach this problem? Is there a solution?

I do not know a lot about teaching deaf children with additional handicaps. I do not think anyone knows a great deal about teaching multiple-handicapped deaf children. There

are no pat answers to this recent problem facing educators of the deaf in the existing educational setups. Yet, each year, teachers trained to teach the normal deaf child find one or two multiple-handicapped deaf children in their group.

The majority of children at Saint Mary's, as I am sure is true in your school, fall well within the category designated as average deaf children. Therefore, the number of multiple-handicapped deaf children who have come to us have presented a tremendous challenge—a challenge not always as successfully met as we would desire.

However, our philosophy of education commits us to the belief that every child within our sphere of influence has a right to our time and our efforts. We believe that we should try to reach him before we say that we cannot teach him.

In this paper all that I hope to do is to give you a little background and then to tell you of some of the methods and techniques that have been tried at Saint Mary's with a reasonable amount of success. We have used these procedures with those deaf children who have not responded to ordinary classroom techniques.

Who is the multiple-handicapped deaf child? For the purpose of the discussion we shall define the two types of multiple-handicapped children that we shall consider:

1. The deaf child with brain damage but with no observable physical handicap.
2. The deaf child with cerebral palsy who is ambulatory.

BRAIN-DAMAGED DEAF CHILD

Let us first consider the child with brain damage. We do not propose to initiate a discussion on what comprises brain damage—we simply use this criteria. If a child's medical history contains two or more of the following factors and if his developmental history also shows two or more of the traits listed he may be considered to be *possibly* brain-injured.

I. Information from medical history: blue baby, Rh factor present, incubator baby—deprivation of oxygen or injury or accident resulting in coma.

II. Psychological tests and observations showing: distractibility, hyperactivity, perseverativeness or low frustration threshold.

Dr. Lauretta Bender in her book, *Psychopathology of Children with Brain Disorders*, states that injury to the brain always produces some disturbance in all areas of brain functioning: personality-wise, concept-wise or perceptive-wise.

It is important to know that brain injury or damage is a descriptive term. Brain damage may be due to:

I. Prenatal causes such as Rh factors, toxemias, German measles, unknown developmental factors.

II. Para-natal causes such as prolonged and difficult labor, intercranial hemorrhages, sedatives and anesthetics.

III. Postnatal causes such as injuries, falls, accidents, fevers carrying a high and prolonged temperature.

One of the most potent meanings for the teacher of the deaf lies in the fact that many of the above mentioned causes of brain damage are also listed as causes of deafness. It is worthwhile to question the possibility of many of our so-called problem deaf children being brain-injured also. Thus our failure in teaching speech, speechreading, language concepts, acceptable behavior, good work habits and selfcontrol to certain children may, in cases where the case history seems to support such a theory, be due to our incorrect choice of techniques and/or our lack of knowledge of methods based on the needs of the brain-injured child.

May I caution you against the possible danger of assuming that every child who deviates, or who has a problem in the behavioral area, is a brain-injured child. However, since the causes of brain injury are in many cases identical with the causes of deafness, it would seem logical that we might expect to more frequently find brain-injured children in schools for the deaf as the two handicaps result from one or more of the same causes. Children who have suffered an insult or injury to the brain and who show no motor involvement are believed by many authorities to present abnormal symptoms in perception, concept formation, emotional behavior and language. No one child will present all of the symptoms and each child in this clinical entity will show varying amounts of symptom disturbances.

The teacher of the deaf needs to know the following identifiable symptoms:

1. A brain-injured child may have difficulty in patterned behavior, that is, he may be overactive, constantly moving some part of his body, twitching, twirling, disorganized, restless, aimless behavior. Some may be aggressively destructive to others and to property.

2. A brain-injured child may have difficulties in perception, that is, in recognizing the whole and the parts of a thing in relation to the whole. In normal perceptive recognition if you see the shoe you see the total figure—you can pick out which is the shoe and which is the background. Children with a perceptual disturbance are not always able to see the whole. Instead they are transfixed with some of its parts which seem to leap to the foreground and reduce the other parts to background status. Instead of the shoe, perhaps the tip of the string appears to be dominant. If a child's perception is affected it is quite

likely that his conceptual thinking will be distorted. He will be unable to relate precepts and interpret them in the usual way. For example, the brain injured child may retain animistic thinking longer—as believing that the table hurt him rather than that he hurt himself by colliding with the hard surface of the table.

He may also be perseverative in behavior, continuing to repeat an act long after it has ceased to have any meaning or purpose. After a thing has been done he still continues to do it. Perseverance is a good quality, but perseverativeness is too much of a good thing.

3. Distractibility of the brain-injured child may be due to his lack of ability to screen out some stimuli and to pay attention to others. To relate these factors directly to the deaf we may begin with the symptom of hyperactivity, This is most important in both speech and speechreading. A child who is constantly on the go or whose eyes are flitting from place to place is most difficult to teach in these areas. Some of the following approaches have been found helpful:

I. Lesson Preparation

A. Physical arrangement

Have small groups with the children seated within arm's reach of the teacher —with the two most hyperactive on either side of the teacher, the rest of the class ranging in toward the center of the semicircle on behavior rating.

B. Arrangement of materials

Keep colorful, flamboyant toys and materials in cupboards. Cupboards with closed doors are preferable. In using these items present only one or two at a time.

C. Scheduling

Alternate between periods of controlled physical activity and more sedentary pursuits.

Provide fairly short periods for re-introduction of same subject during the day.

II. Methods

A. Include patient reiteration with sufficient opportunty for reinforcement by the child.

B. Hold child's face, two hands on cheeks, making direct eye contact.

C. Seat child higher than the teacher as focusing in a particular direction keeps vision limited, allowing concentration on lips and face.

D. Place child's hands on teacher's face when speaking.

E. Use construction paper horse blinders for a few minutes, allowing only forward vision.

F. Use silhouette forms and pictures.

G. Introduce word recognition with black letters on light background chart. Delay introduction of colors and high stimulus pictures and objects.

H. Teach speechreading and speech in a comparatively bare place. Moving from pictures to puppets, dolls to designs is good planning for the normal deaf child. For the brain-damaged child it is a liability and a detriment.

I. Allow action in a structured way to give release but not being freely permissive. Latitude and excess of freedom to brain-damaged children is cruel. It adds chaos to an already confused world.

J. Use slides with pictures of objects taken in a comparatively bare place. This is very good for vocabulary development—for speech stimulus.

K. Use sense training persistently to aid in teaching correct perception. For example, in teaching *soft*, use velvet, fur, a kitty, custard, etc.

L. Teach number concepts as early as possible to aid in reduction of perseveration. Remember that the brain-injured child constantly loses sight of the essential image when his attention shifts to some insignificant detail. Button cards are excellent for number concepts. So are matchboxes with the number written on the outside and the corresponding number of objects inside the box. Seat charts may also be used with the concept placed on the chart and the figure, print or script, of a given number concept placed in a small envelope and clipped to the corresponding chart. Avoid using an abacus, a counting frame, as the beads do not stay in place and it is therefore too distracting.

M. In speech and speechreading use diagrammatic cues for positions.

SUMMARY

I. Brain injury may be severe and widespread and yet show no motor involvement.

II. Many of the contributing causes for brain damage are also causes for deafness. It seems possible that some of our problem deaf children may also be brain-injured and require an understanding of special techniques

III. Brain damage affects:
How one perceives—foreground, background, confusion.
How one controls one's behavior and impulses.
How long one can attend to a task.
Perseverance. (Perseverance is an observable symptom.)

IV. Use approaches which crystallize and experiences which eliminate distractions. Use controlled situations which emphasize only the key item.

CP DEAF CHILD

Diagnostic medical teams specializing in cerebral palsy send youngsters whom they consider CP deaf to schools for the deaf. In an effort to more clearly define our children, however, we must say here that the child must be severely hard of hearing or deaf and that the major handicap be deafness not cerebral palsy.

Teachers, therapists, aids and social workers often question the what and the why of the CP child in an attempt to reach the how—how to help him achieve his maximum development. We shall consider only those questions which are pertinent to the CP deaf child as a group member, one whom we need to know something about, but one who must fit into our classroom situation realizing our obligation to aid and develop all of the children entrusted to us. The teacher needs to know that:

1. Cerebral palsy is a general descriptive term of neurological involvement. It does not tell exactly what is wrong; it does not tell the extent of the wrongness.

2. Large muscle skills develop generally before finely coordinated skills. Speech is a fine skill, with the production of consonants requiring even more physical-neurological coordination than the vowels.

3. The involvement of the speech mechanism may have resulted in a definite retardation in physical readiness. For example, a child who has difficulty in chewing, swallowing, taking solids or liquids may find it impossible to manipulate the speech organs in a desired manner.

4. The action of the mouth, the ability to smile, pucker, depress, etc., is a necessary factor in speech.

5. The ability to elevate or depress the jaw, the condition of the teeth, the size and general appearance of the tongue and the control of the tongue, the appearance of the palatal area and the position of the head. What about respiration? Is it quite disturbed? Reversed? All of these factors have real meaning concerning the cerebral palsied deaf child.

6. The CP deaf child has two handicaps and must be given double training. The child must have many more experiences than the child with only one avenue closed.

A cerebral palsied deaf child must learn some method of communication. His welfare depends on it. A CP child with no speech might respond to pictures or objects by head movement or body movement, working toward the conventional yes and no movements. Following the mastery of this could be the interpretation of words with objects presenting whole words with the picture. Finally, lipreading could be combined with reading and speaking.

Because of the probability of disfunction in the use of the speech organs, perception, breathing and rhythm, co-ordination and balance, attention and memory, a somewhat different stage of approach may be utilized with the CP deaf child. Some of these approaches might include definite structured experience in using his tongue, teeth, lips and jaw. He may need help by manipulation rather than by imitation. He will need these woven into social situations within the classroom:

A. whistling, humming, smiling

B. blowing, smacking lips, throwing a kiss

He will need to continue with such physical exercises involving the speech organs long after the uninvolved deaf child has left them.

C. Tongue extension and retraction

Touching teeth.

Hiding a small piece of peppermint in various positions, under the tongue, on the strongest side, if deviation to one side is present.

Using a straw (blowing bubbles).

Licking — ice-cream cone, icing off a graham cracker, stamp, picture seals.

Wedging raisins between the teeth —to be dislodged by the tongue tip.

D. Facial expressions

He will need help in making facial expressions fit his moods. This will help him to indicate his needs and relieve his anxiety and frustrations.

Looking surprised, happy, sad, afraid, and the like.

The CP child will need help in blending, phrasing and inflection before he receives help in the production of consonants; using his voice precedes the use of vowels to communicate; making small sounds, singing, expressing delight and laughing are important precursors of the production of consonants. He will need the use of amplification often and in different situations.

He will need success in order to attain an attitude that speech is useful, that it is worth his trouble. He will need help to find a way to do and say what he is rather poorly endowed to do and say. This is of the utmost importance in the development of techniques. If he cannot jump with both feet over an obstacle, can he be taught to climb over it realizing that he can progress to the designated point without giving up, having a temper tantrum, crying or feigning disinterest?

Combining motor activity with speech is highly recommended, except for the CP deaf child who shows some loss of ability in handling objects. His concentration on performing

the motor act may well make it impossible for him to perform the speech act.

He will need more help in carryover; therefore, it is helpful to alert all personnel as to a specific aim. There is a definite and immutable relationship between frequency of practice and acquisition of results.

Sample Lesson

Work on the "th" sound. Use of "Thank you."

1. Please stand up.	Thank you.	(teacher)
2. Please walk.	Thank you.	
3. Please shake hands with me.	Thank you.	
4. Please sit down.	Thank you.	

Comment:

This begins a lesson with some motor activity which: (a) does not require skill beyond any child's ability; (b) provides some movement for release of involuntary tension; (c) gives four opportunities for the children to observe the phrase being used in response to *doing* something—not being given something.

On a simplified level pictures which show what is to be done may be used. Those children who cannot give the command can hold up the picture to indicate the action they wish performed. When the group responds he is able to attempt a verbal "thank you."

Dramatization:

One child falls and pretends to cry. He says "help" or "help me." Another child helps him up, brushes him off, offers a tissue. Child who had fallen says, "Thank you." Smiles and the two go off hand in hand.

Comment:

This simple action presents another situation in which "Thank you" is the proper response—one which may occur in many different places. When someone helps you or does something for you, this adds another reason for the use of the phrase.

Passing out candies or picture stickers would end the lesson. (Allow the children, if there are several, to pass the rewards to three or four so that they might have the opportunity to speak and lipread each other.)

Supplementary Suggestions:

Putting toys into a box or a bag, with each action rewarded with a *thank you.*

Asking a child to perform an action—"thank you."

Using puppets to perform an action—child saying "thank you," as his lines in the dramatization.

SUMMARY

I. Cerebral palsy indicates some brain damage or some neurological involvement. It is usually accompanied by some motor involvement.

II. Big muscle development precedes small muscle coordination. A child who has many involuntary movements will probably have difficulty in holding a position long enough to produce the fine skill needed for sound production of consonants.

III. The CP child may be delayed in his ability to bite, chew, swallow, laugh and cry, therefore having very little practice in the use of the speech organs. He will need physical help and should be checked on producing the following: smiling; puckering; depression angle of mouth; jaw elevation and depression; condition of teeth; position of head; breathing rate; tongue control—up, down, lateral, circular and pointed movements.

IV. A CP child needs more training as he has missed many of the satisfactions concomitant with acquisition of physical prowess—climbing, jumping, etc.

V. Methods should include emphasis on:

a. Voice, usage and production.

b. Breath control.

c. Comprehension (use of conversation board).

d. Structured exercises and manipulation of tongue, lips, through natural functions such as chewing, licking, smacking, sucking, making expressions.

e. He will need success arranged in speech activities so that he can attain an interested attitude which will keep him trying.

f. Because carry-over will be a definite problem to him, he will need to be taught in life situations and will need the support of all who enter his life—not just his teacher.

It is my hope that some of the suggestions offered here today may prove to be of help to you with one of the multiple-handicapped deaf children who may come to you. While being unsure that you, as teachers and professional workers in this field, have gained something from today's discusson I can honestly say that in sharing it with you, I have learned much, for, as St. Augustine has said, "To study is a good way to learn; to hear is a still better way; but to teach is the best of all." "It often happens," said St. Augustine, "That the office of distributing gives us the merit of receiving, and the office of teaching serves as a foundation for learning."

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A Pilot Study of Parental Attitudes

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It is my purpose today to discuss with you the problems of parents of deaf children, and to describe various types of parent education, particularly an experimental program conducted at University of Kansas Medical Center Children's Rehabilitation Unit.

As educators of the deaf, we have come through our training, and more importantly, through our experience with deaf children, to know the educational, social and emotional needs of these children. We have accepted as our goal, and in fact our *raison d'etre*, the stimulating, guiding and teaching of those skills necessary for language learning, speechreading and speech in order that those children may more effectively assume their individual roles in a hearing world. We have come to realize that the best way to attain these goals, and to insure the social and emotional growth of the children, is through the cooperative effort of the professional team, that is, the otologist, pediatrician, audiologist, psychologist, social worker and educator of the deaf. Usually, this team is not called upon to plan a program of rehabilitation for the deaf child until he is well beyond the age at which normally hearing children have acquired these skills, beyond the optimal period for learning speech and language. Increasingly, the attempt has been made to establish the diagnosis of deafness as early as possible, so as to initiate an educational program that will utilize this optimal period for learning oral communicative skills.

How often have we talked with parents whose children were starting an educational program, and heard them relate the inadequacy they felt in attempting to teach their children at home? How much better it would be, for all concerned, if these parents were equipped to assume the additional roles their child's handicap forces upon them.

Because the normally hearing child learns speech and language from his parents, the relationship between parents and child assumes a place of major importance in the acquisition of this function. In addition to the influence of this relationship in learning to communicate, the knowledge of dynamic psychology, psychiatry and child development has stressed the significance of parent-child relationships and the importance of the child's early experiences in determining his personality development and future mental health. Gertrude L. Wyatt,[12] in her book, *Speech and Interpersonal Relations*, states the importance of this relationship in learning speech and language by saying, "The vicissitudes of the mother-child relationship have a determining effect upon the nature and outcome of the process of language learning."

It is important to remember that this relationship between child and parent also has a tremendous influence on the child's development in areas other than acquiring speech and language. Dr. Harold Greenberg[4] expressed this in an article entitled, "Problems of Parents of Handicapped Children." He states, "Unless a child feels secure in his environment, he is likely to develop emotional difficulties which can be as handicapping as physical disability."

In any discussion of parent-child relationships, we cannot emphasize one part of that interaction, but must remember that any relationship is a dynamic process between the individuals involved. Consequently, just as we glibly speak of the needs of the child and the parents' role in fulfilling these needs, we must also consider the needs of the parents and how they fulfill them through their children. Dr. Greenberg[4] summarizes some of the normal needs of parents in an excellent article and I believe they warrant our careful consideration. "All parents have certain needs, which can only be met by their children. First, is the basic need for satisfaction which paternity brings, and second, the opportunity to give their children warmth, security and development in a social group. The third need, which children satisfy, is the parents' wish to teach and aid them during their development." To reiterate, these are the normal, healthy needs present in the parents of all children. We may see, then, how these needs and their gratification are altered when the parent finds that his child is deaf, and the adjustments that must be made if these needs are to be met, and lastly, the influence on the the child because of these adjustments. We must also remind ourselves of the fact that other parental needs, neurotic and disturbing, may be present which will also determine the nature of the parent-child relationship.

It is often true that the impact and shock to the parents in learning that their child is deaf brings to light needs and attitudes quite apart from the normal ones stated previously. Dr. Daphne M. Bennett,[1] studying parents enrolled in the Tracy Course, observed, "Tension and anxiety following the initial shock of having a deaf child persisted in some to an incapacitating extent. The most pervasive

area of difficulty was that of emotional attitudes, affecting every area of the parent-child relationship, of which the teaching methods were a part. In addition, 'knowing better' or 'being told' appeared insufficient to change adverse attitudes, whether they were expressed in rejection of the child or in rigidities in using the course." She concludes that, "Child-centered methods appeared to be successful when they were an implementation of attitudes"; that "having a deaf child placed a heavy stress on the parents' adjustment, and their most pervasive need seemed to be for emotional help." She felt a strong need was observed for the kind of group experience where parents could talk out "negative feelings in a non-condemning atmosphere" as the "first step to going beyond them." It is my feeling that we, as teachers, must, if we are to concern ourselves with the total adjustment of the child, also concern ourselves with the needs of the parents. Unless we do, we cannot expect that the children we teach will have the maximum opportunity to develop whatever capabilities they may have, no matter how much energy we expend in the classroom.

Since the deaf child is two years old, or in many cases five or six before a formal program of education is started, it becomes paramount that the parents of these children are helped at the earliest possible time in order to utilize these precious early years in the child's life which may determine the course of his subsequent education and attainment.

I have mentioned the professional team and the important roles the members play in the rehabilitation of the deaf child. I have also attempted to stress the vital role the parents play in all areas of the child's development. It stands to reason, then, that some of the most important members of that team who are all too often neglected, should be the parents. Perhaps one reason the parents have not been included is the fact that the parents, themselves, were not ready to assume this role. Upon learning that their child is deaf, they often have so many questions, fears, doubts and conflicts that they cannot concern themselves with the long range plan of education. They must know immediately why this happened to them, where they can get a "cure," what it really means to be deaf, etc. You are only too familiar with questions of this type.

Before they can become effective members of any team, and more effective parents to their deaf children, they must be guided through these and other areas. It is precisely for help in answering these initial questions that parents turn to us, and we, in turn, attempt to offer information which will allay their fears, And so it was that programs for parents were started in connection with educational institutions.

An important factor to be considered in any discussion of parent education is the definition. In my opinion the ideal philosophy of parent-education is well represented by Dr. Peter B. Neubauer,[9] Director of the Child Development Center in New York. He says, "Group education directs itself toward the available growth forces within the healthy constructive aspects of the ego. It does not attempt to dissolve pathology or to explore and change unconscious factors that are interfering with adequate ego-functioning. Group education may have therapeutic by-products (in fact, all education in the best sense has some therapeutic value) and, to be effective, it must concern itself with feelings and attitudes as well as intellectual concepts with those emotional factors that are important for educational growth."

I feel that many of the traditional programs of parent education have not been meeting these goals, primarily because the parents themselves have not been ready for the type of programs offered. The types of programs to which I am referring are well summarized in a paper on Parent-School Relationships presented by Genevieve Drennen Roberts[11] at the 1959 American Speech and Hearing Association Convention. She stated that the leading types of programs as they relate to educational institutions are: 1. Parent Institutes sponsored by state agencies and for state schools for the deaf. 2. Information series developed in metropolitan areas to provide information to parents in a short time. 3. Correspondence courses as provided by clinics and universities. 4. Group meetings originated by parents with or without professional leadership or through day schools. 5. Clinic and agency sponsorship as pilot projects to provide community education. 6. National Associations to provide general information and to strengthen individual groups throughout the country. And lastly, individual counseling.

I have felt that parents had to handle their reactions to the initial shock of learning that their child was deaf, express these feelings, however negative or hostile, find answers to those questions that could be answered and accept the fact that, more often, there are no answers. Only after this took place would they be able to discuss and participate in the educational program that would be best for their child. It was felt that the security and insight gained by the parents would be a more positive influence on the total parent-child relationship, and consequently on the child, so that together they would be able to handle the necessary adjustments every deaf child has to make, which, at best, are difficult.

I do not believe most types of parent-education have lived up to the philosophy of parent education discussed previously. I should now like to discuss with you the de-

velopment of the program at the University of Kansas Medical Center, because I feel that this type of program more nearly approaches what is desirable if the parents are to be helped to the maximum, and in turn benefit the educational programs of their children, which of course is our main concern.

A program of parent-education at the Pre-School for the Deaf at the University of Kansas Medical Center has existed since 1949, when the preschool was organized. During these years, until 1958, the parents met periodically with a trained teacher of the deaf, who gave them information through lectures or discussions pertaining to deafness and its problems as it affected their children. This staff member was not trained to handle the feelings and attitudes of the parents, as they centered on their own concerns. In view of the fact that the parents' personal needs were not being met, and hence, they were not benefiting from the material presented, it was felt that a staff social worker, trained in handling the subtler problems present, could better conduct these parent meetings. This was done during 1958. At the end of this time, the social worker felt that because of her lack of technical knowledge in the field of speech and hearing, much needed information was not imparted to the parents; so that in a very different way the ideal goals of parent education were yet to be met.

It seemed logical, then, in September of 1959, to utilize both staff members, the social worker trained in group work and individual counseling and teacher of the deaf to offer any technical information requested.

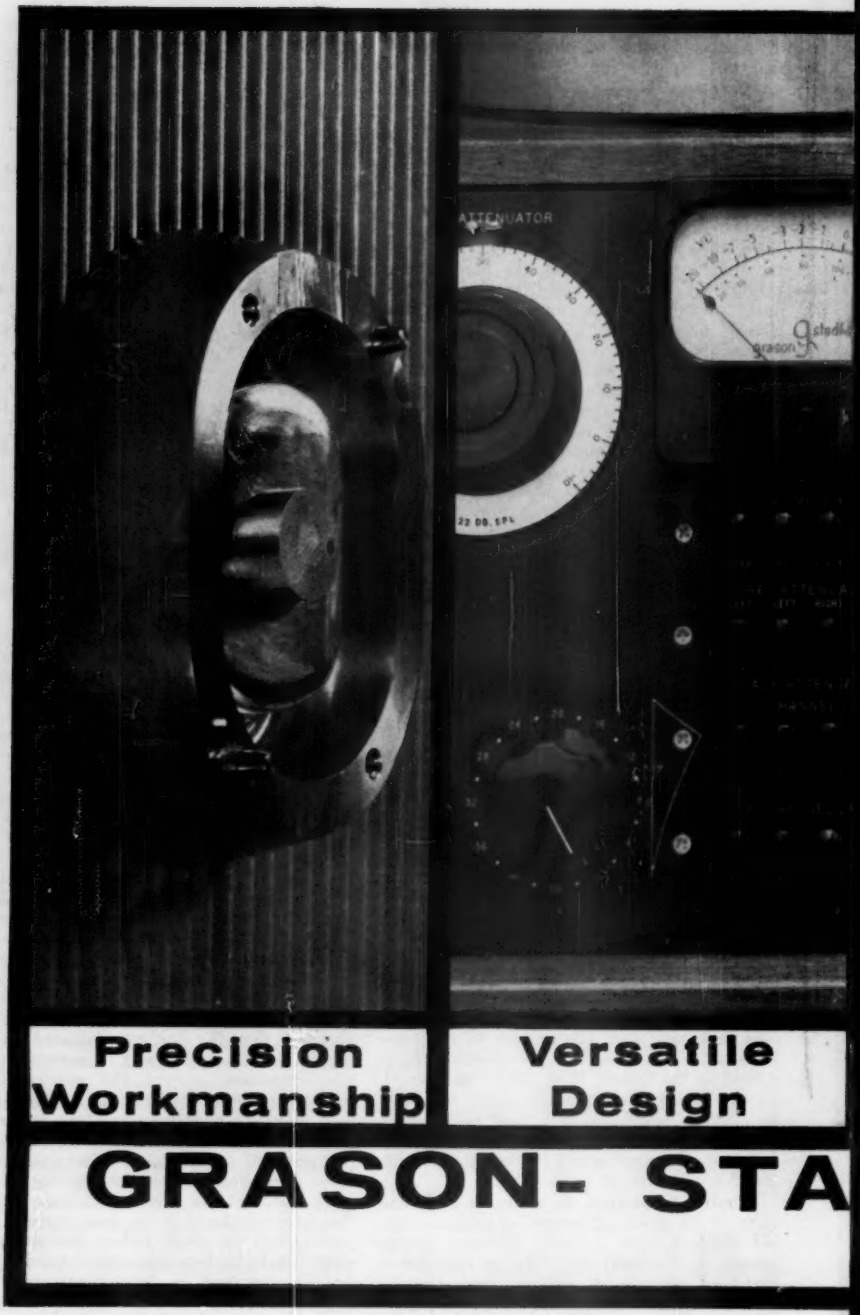
At the time, there were three different groups of parents corresponding to the three groups of pre-school children enrolled in the program. One group consisted of the parents of the four-and-a-half- and five-year-old children. They met twice monthly, and had had a year's previous experience in parent education. The second group of parents were parents of three- and four-year-olds. They also met twice monthly and had had various limited experience in parent education. The third group, and the one I should like to discuss in detail, were the parents of the two-year-olds. This was an experimental group started in the fall of 1959. These parents of 12 children met every week. They had had no previous counseling and most of the parents had recently discovered their child's handicap. Each group met for two hours while the children were in class.

In order to contrast the attitudes and concerns of the group of parents of the two-year-old children after a year's intensive parent education, I should also like to describe a group of parents of children from two to seven who had not been exposed to any parent education and whose children were not enrolled in any type of special education. These parents attended a Parents' Institute at the State School for the Deaf in Olathe, Kansas, for diagnosis and intensive programs of lectures and discussions by qualified personnel from the area.

We are all familiar with parents who evidence narcissism, rejection, over-protection, feelings of inadequacy, infantile attitudes, anxiety and guilt. All of these characteristics were represented in our experimental group of the parents of two-year-olds as well as in the other three groups. Also present in all groups were those parents who were mature and insightful. The concerns and questions of these groups were initially the same. The nature of their concerns followed those questions I have stated previously. Generally they could be included in the term "parent-centered." By this I mean that their initial concerns were with how their child's handicap affected them, and what they could and should do, and how inadequate they felt in following suggestions. Because of these reasons the program of parent-education was planned so as to deal with these parent-centered concerns, and in fact, designed so that the entire program was within this frame of reference.

At the weekly parent meeting we attempted to maintain an unstructured informal atmosphere which would be more conducive to the free expression and interchange of problems, feelings and topics under discussion. The professional staff present consisted of a teacher and a social worker. The latter's role was unique in that she reflected the parents' feelings and attitudes and helped them look at their expressed concerns comfortably. She was also available at any time to see these parents individually when they requested it, or when she observed a need or anxieties not appropriately handled within the group. As a teacher of the deaf and the other staff member participating in the group, my role was to serve as a resource for technical information and teaching suggestions when these were called for, but never with prepared lectures. No formal agenda was prepared, but it was observed that the subjects initiated by the parents for discussion and in answer to specific questions, covered the spectrum that would have been presented if a more formal type of group education had been operating.

I feel that the important thing to note is that much of the information imparted during these discussions is the same as that covered in the more child-centered programs. In these the main emphasis is on how parental attitudes affect the child, rather than the major emphasis being how the child's handicap affects the parents, as in our parent-centered groups. The parents themselves initiated the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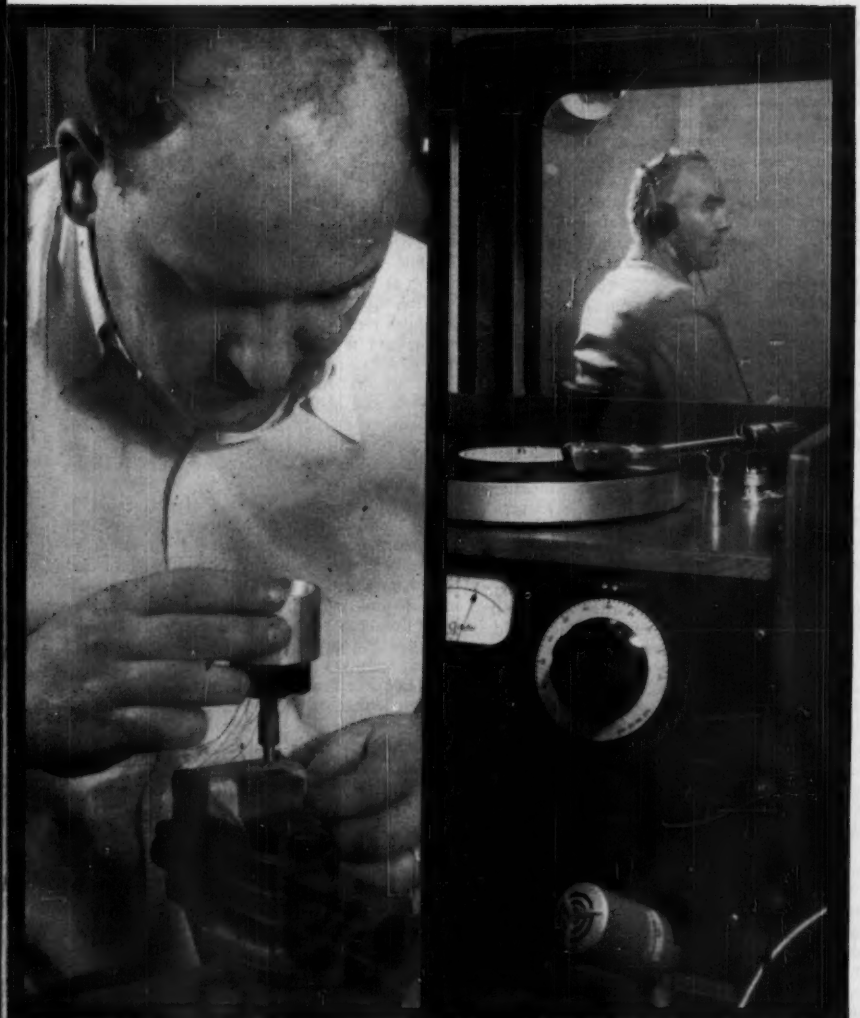

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discussion, and more often than not, it was their attitudes and concerns about these areas rather than the implications for the child that were the focus of discussion. For example, it was observed that four or five descriptions of the hearing mechanism were necessary before the parents could resolve their own questions and concerns and assimilate the information in relation to their children. An attempt was made to maintain an unthreatening and permissive atmosphere so that the participants felt free enough to express their negative feelings, hostility and fears.

A more subtle, but nonetheless important, aspect of this type of program was the support these parents gained from the sharing of common problems and concerns with other parents. Many times it was observed that the most influential changes in individual attitudes occurred through this support and sharing, rather than by any specific information imparted by the staff. It would appear that this emphasis and structure of a parent education program best met the needs of these parents.

We found that the parents who had participated in the previously described program had become more child-centered, which, as you may recall, was our original goal. They were more concerned with how their attitudes and actions influenced their child, and in actively participating in his immediate and future educational plans as well as in his social and emotional growth as an individual member of the family. Their added insight and confidence was expressed as a positive factor in their relationship with other members of the family. It hardly needs to be stated that all of these changed attitudes would be positive influences on the child who is deaf, and would enhance the possibility of his benefiting from any educational program. Our purpose was to concentrate on the strengths and health of the parents, and to offer a situation in which they would not only gain support from meeting others with similar problems and concerns, but would be in contact with information and attitudes that we hoped would be beneficial in helping them adjust to their problems in the most constructive manner for both parent and child. Unless this shift in emphasis is the result of parent-education, the children of these parents may remain handicapped by poor parent-child relationships which could have a negative influence on their educational attainments, as well as other areas of their development.

This is evident in the attitudes of the parents attending Parents' Institute. Their attitudes had not been shifted from extreme self-concern to the more child-centered concerns evidenced in the experimental group. These parents must be offered the opportunity to participate in a parent-centered parent education program such as I have just described, if they are ever to become effective members of the rehabilitative team. I feel that the parents of the experimental group are approaching this goal, because of this resultant shift in attitudes.

An evaluation of this type of program is at best difficult to achieve. Our staff has been investigating the possibilities of using the Parent-Attitude-Research-Inventory (PARI), the Sears Child Rearing Interview, the Thustone Sentence Completion Form or other attitude and child-rearing scales. As an attempt at an objective form of evaluation, an original questionnaire to elicit attitudes was administered following the year of parent education and to the group not participating in the experimental program. Primarily, however, we relied on observation, expressed opinions and attitudes of the parents, trusting that our experience and training, not to mention our intuition and just plain luck, have prepared us to make the correct observations and evaluations.

Based on all these method of evaluation, it is my opinion that the support gained from an unstructured parent-centered approach to parent education affected attitudes and behavior on the part of the parents that showed insight and maturity at a somewhat higher level than that exhibited by the parents who attended Parents' Institute. I in no way mean to imply that every parent resolved every problem; nor that the final attitudes observed indicated that we had reached our goal of better parent-child relationships and, through this, children more amenable to our educational efforts. To do so would be unrealistic. However, I do feel that the progress and growth observed during this year were related to this type of parent education. Consequently, the changes noted in the experimental group from the time they entered the program and their subsequent evaluation at the end of this year, and the contrast with the parents attending Parents' Institute more than provide impetus for continuing this type of program.

In addition to the specific goals and accomplishments of this program of parent education, tangential benefits were noted. The teacher had a valuable opportunity to become acquainted and to work more closely with these parents than she would have had in a situation where the parents are not such an integral part of the program. Just as parents all too often bring to parent-teacher conferences their past feelings toward their own education and teachers, we, as teachers, participate with remnants of our past feelings about our own childhood and our relationships with our parents. The greater reciprocal understanding gained in a program such as I have described augments the educational pro-

gram and provides an opportunity for more cooperative efforts in attaining our common goals for the children involved. These goals can never be accomplished if the parents must remain *outsiders*, whether this is due to their own feelings of inadequacy or to our hesitancy in accepting them as partners in their child's educational and rehabilitative program.

Another benefit derived from educating the parents to the "mysterious and unknown world of deafness and deaf education," is that we hope we are indirectly advancing the education of the larger community. This is vital for many reasons, not the least of which is the fact that the children we are teaching today should be the participating and contributing members of that community tomorrow. The degree to which they attain that goal, which after all is their birthright, is the responsibility of the parents, of you and me, and every member of a community in which there is one deaf person. Only through realistic, cooperative efforts from all of us can we insure them, our students and children, their rightful place in the community which, is unfortunately for them, a hearing one.

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Differential Diagnosis of Congenital Aphasia

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A good deal of literature has accumulated devoted to the examination, diagnosis, and treatment of "congenitally aphasic" children.[4] Examination of the literature reveals definite trends toward the development of specific cults dealing with these children. Oracles have become established where parents with children with delayed hearing and speech behavior may consult and obtain examinations which terminate in irrevocable diagnosis. Examination procedures consuming several hours to a day lead to the diagnosis. The literature also reflects the development and refinement of impressive techniques. These children have been diagnosed under various categories contingent upon the training and predilection of the examiner. This preliminary examination and diagnosis must precede rehabilitation placement.

A cursory survey of this vast source of literature makes it clear that the "congenitally aphasic" child presents a multiplicity of disturbances which can no longer be considered a clearcut, single, clinical or pathological entity.[1, 2, 3, 10, 11, 12, 17]

GSR and EEG techniques promise a good deal of help in assessing some of the neurological and auditory factors. Neurological examinations, EEG, Xray, and other procedures are still in the process of refinement, although in the hands of skilled people who are cautious in their interpretation, these findings are proving very helpful. The basic procedures which dichotomize "congenitally aphasic" children from other groups are their unresponsiveness to sound, delayed, arrested, deteriorated vocabulary, speech, and language development, usually culminating in a breakdown in the communicative process. Research at different levels has indicated that different motor systems exist which may take over the speech function.[19] In the most recent and careful work by Penfield and Roberts,[15] a good deal of information has resulted through the use of experimental operative techniques. Nevertheless, final localization of speech still remains a mystery.

Observation of the behavior of these children reveals a wide range of heterogeneous psychopathological behaviors associated with complete breakdown in the communicative process. The research has also unequivocally revealed that many of these behaviors may stem from varied etiological factors. Among

the diagnoses, these children have been recognized as autistic,[12, 13, 16] symbiotic autistic,[14] children with schizophrenia,[1, 2, 3, 7] nonorganic deafness, and pseudoretardation,[8] brain damage,[18] and other deviant behavior categories. In spite of the oracles, the "congenitally aphasic" child still presents an extremely complicated individual, difficult to detect rapidly and easily. A careful examination of the behavior of many "normal children" reveals behavior patterns similar to those of "congenitally aphasic" children, but diagnosis on a continuum requiring different periods of investigation may reveal qualitative differences which provide key constructs in the diagnosis.

In view of the many existing violent disagreements, a preliminary investigation was undertaken with a group of 67 children referred to the Syracuse Hearing and Speech Center already diagnosed as "congenitally aphasic," during the years of 1955 and 1956. These children were followed through until July, 1959.

TABLE I

Classification, sex, age range, and mean age of 67 children diagnosed as having congenital aphasia, reporting to the Gordon D. Hoople Hearing and Speech Center between 1955 and 1956.

Sensory		Motor		Mixed		Age Range	Mean Age	Total
F	M	F	M	F	M	3-1 to 5-3	3-11	
9	15	17	12	8	6			
24 Total		29 Total		14 Total				67

Table I indicates the children as they were classified according to previous diagnosis. Neurologists, psychiatrists, family physicians, psychologists, speech therapists, reading specialists, nurses and teachers had already contributed to the diagnosis. Table I revealed that 67 children so referred had an age range from three years and one month to five years and three months, with a mean age range of three years and eleven months. Of these children, 24, 9 females and 15 males, were considered to have sensory aphasia; 29, 17 females and 12 males, motor aphasia; and 14, 8 females and 6 males, mixed aphasia. These children were examined and instructed over a period of time and their behavior observed very carefully by two psychologists who administered the psychometric tests. At least four tests were administered over the period of time. Each child had thorough neurological and electroencephalographic examinations. Play and conditioned audiometry, localization, GSR, and other audiometric techniques were utilized to determine auditory sensitivity, and didactic-diagnostic techniques, utilizing speech materials were employed for testing different auditory capacities, association, and expressive potentials.

Table II reveals the final classification of the 67 children. Seventeen were eventually considered to have intelligence quotients below 60; 11 had intelligence quotients between 60 and 75; 20 were considered emotionally disturbed, with normal intelligence; 15 had defective hearing; while the remaining four children exhibited characteristics consistent with aphasoid tendencies. The emotionally disturbed children were finally selected on the basis of Bender's,[2] Goldfarb's,[9] Kanner's,[12] and Eisenberg's[6] diagnostic constellations. All of the specialists participating in the examination contributed to the decision.

Table III presents the breakdown in terms of the intelligence quotient range, neurological, and EEG findings. Of the 17 children in the first group, the intelligence quotients ranged from 18 to 58. In this group there were 15 positive neurological findings with 10 positive EEG findings. These findings support the present hypothesis that children with intelligence quotients below 60 usually have extensive organicity, so that the delayed hearing and speech behavior is compounded by organicity with concomitant retarded mental development. These children also exhibited physical stigmata consistent with retardation. The second group of children with retarded mental development, with intelligence quotients ranging between 60 to 75, included 5 with positive neurological and 2 with positive

TABLE II

Final diagnosis, classification of 67 children originally diagnosed as having congenital aphasia.

Intelligence Quotient of 60 or below	Intelligence Quotient between 60-75	Emotionally Disturbed Normal Intelligence	Defective Hearing	Aphasoid Characteristics	Total
17	11	20	15	4	67

TABLE III

I.Q. range, neurological, and E.E.G. findings for the 67 children originally diagnosed as having congenital aphasia.

	Number	Range	Neurological Examination		E.E.G. Results	
			Positive	Negative	Positive	Negative
Retarded Mental Development	17	18-58	15	2	10	7
Retarded Mental Development	11	60-75	5	6	2	9
Emotionally Disturbed	20	92-131	6	14	4	16
Defective Hearing	15	60-117	6	9	2	13
Aphasoid Characteristics	4	90-115	4	0	4	0

EEG results. This group made the greatest progress after a period of instruction. Once speech began to develop, the developmental lag became restricted and they made what appeared to be spectacular gains. Vocabulary, speech and language development was, nevertheless, retarded, but consistent with their potentials. The important consideration noted was the use of speech for communication. Among these 67 children, 15 were found to have sufficient auditory threshold deficiency to account for delayed speech development. Their profiles were contaminated with emotional labileness and other characteristics which often masked the defective hearing. Of these 15 children, 6 were found to have positive neurological findings and 2 positive EEG results. The remaining four children who had intelligence quotients between 90 and 115 had both positive neurological and EEG responses. In these four cases, the neurological limit was isolated to the left hemisphere. Gross motor examination revealed no disability, but finer movements of extremities in the performance of complex coordinated motor tasks revealed deficiencies. These findings support Sugar's[19] and DiCarlo's,[5] and other investigators' hypothesis that "congenital aphasia" as a single entity must be questioned. Most of these children revealed auditory memory span, auditory discrimination, auditory synthesis and auditory recall disturbances. Most of the children simulating defective hearing were disturbed in performances requiring auditory recognition and localization, and all of the children presented a series of disabilities along a continuum.

The conclusion of this investigation must not be misinterpreted as indicating that children with severe communication paralysis do not exist. These 67 children were characterized by severe inabilities to relate and communicate. Nevertheless, a careful appraisal of the behavior of these children strongly postulates the concept of multiple deficiencies. The study also strongly emphasizes the need for examination and constant reappraisal on a temporal continuum. The data implies that, for young children, limited avenues of communication impose serious restriction on the intellectual, physical, psychological and social integration sufficient to jeopardize their basic personality structure. Adequate diagnosis and appraisal presents a critical and crucial process which should be extended at an earlier level in order that proper training may be provided within a systematic framework.

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Invited Papers III

Presiding: John Rybak, Assistant to the Principal, St. Mary's School for the Deaf, Buffalo, N. Y.

Effect of Temperature and Humidity on Hearing Acuity

LUCIA CAMERON MORGAN

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The effects of weather conditions on the human organism have been of interest to man since the days of Hippocrates and Aristotle, but meteoro-biology was not recognized as a valid field of investigation until recent years. Inquiry into the literature revealed a wealth of interesting material, much of which would fall into the realm of folk-lore and superstition when evaluated by modern scientific methods of investigation.

Hippocrates, the great physician of the fifth century B.C., warned his young disciples not to ignore meteorology if they wished to achieve the greatest triumphs in the practice of their arts. He was particularly concerned with the effects of the hot and cold winds on diseases. He believed that man's diseases, like his digestive organs, suffered changes with changes of the seasons.[1]

Aristotle[2] devoted a whole book to weather when he wrote his *Meteorologica* in the fourth century B.C. He believed that the climate of a nation affected the character of the people and he hoped to convince his compatriots that the weather and its effects on man did not emanate from Zeus or any other deity.[3]

Among the more modern followers of Hippocrates was a young Scotch doctor, John Lining, who observed that yellow fever epidemics in South Carolina were seasonal in nature. In 1730 he began to observe and record all sorts of information concerning bodily changes under varying conditions. While he did not discover the cause of yellow fever, he did make one contribution to future scientific study. Using himself as a subject, and working with instruments of his own construction, he came to the conclusion that bodily weight fluctuated with the weather. This observation was substantiated some two hundred years later by Smith,[4] in his experiments with dogs and rats in a pressure chamber to determine the amount of water retention under low barometric pressure.

The works of Dexter[5] and Petersen[6] were noted among the 20th century writers. Dexter, a professor of education and psychology at the University of Illinois, was interested in behavior problems among school children. In his efforts to answer the questions of his students as to why children were more full of mischief on certain days, he became involved in a comparative study of behavior and weather. He found, for example, that cases of assault and battery in New York City were greater when the temperature was between 80° and 85° F. In his studies with children, he observed that they misbehaved on muggy, hot, windy days and they were best when the weather was cold, calm and clear. He pointed out to teachers that they could not change the weather, but they could modify classroom activities when unfavorable weather conditions affected the behavior of the students.

Petersen devoted many years to his work on the effects of weather conditions on the human organism, but his findings met with varying opinions from the medical profession. Briefly, Petersen believed, according to Berke and Wilson,[3] that behind the immediate cause of failure of an organ to function properly lay additional factors to be considered. He felt that one of the more important factors was the weather.

In all the literature examined, only one study dealt specifically with the effect of weather conditions on hearing. This study by a German scientist, Jankoff,[7] was concerned with the effect of abrupt and repeated changes in temperature on the hearing of railroad engineers and cabmen. During the winter in Germany, temperatures ranged from 21.2° F. outside the cab to 113° F. inside. The engineers stuck their heads outside the cabs an

average of 50 times each hour and a half. Jankoff believed that the abrupt changes experienced by the engineers, the repeated heating and chilling on the right side of the head, produced dilatations and contractions of the blood vessels which resulted in anoxemia (oxygen deficiency), hyperoxemia, arteriovenus anastomosis (union of an artery and vein to form intercommunication), edema of the membranes and small hemorrhages of the inner ear. He contended further, that since the ear is a "weak" organ, incapable of recovery from the conditions he described, permanent deafness resulted which was progressive in nature.

Two studies of the effect of weather on the human being contributed to the preparation of this inquiry under consideration here. The first was the work of Ellsworth Huntington. In his *Civilization and Climate*[8] he indicated that there were two definite climatic optima, or two sets of the most favorable weather conditions. One optimum, with an average temperature between 60° and 65° F., affects physical output. The other affects the mental output and he estimates the optimum here at 39° to 54° F.

The other helpful study was the research of the American Society of Heating and Ventilating Engineers,[9] which mentioned the "ideal" combination of temperature and humidity for most individuals. While the comfort zone differed somewhat according to age, sex, occupation and the seasons of the year, the average was between 65° and 72° F., with relative humidity between 45 and 50 per cent. The latter study was of assistance in the selection of the temperature and humidity combinations to be used in this investigation.

The purpose of this study was to determine quantitatively the effect of temperature and humidity on hearing acuity. No effort was made to determine why the hearing was affected nor how it was affected. The study proposed to measure hearing loss or gain in decibels when both hard of hearing and normal hearing individuals were subjected to selected combinations of temperature and humidity. The study was not designed to evaluate the "social adequacy" of the hearing of the subjects.

The investigation was completed in 1954 at Louisiana State University under the guidance of Professor Giles W. Gray. The results presented here should be considered only a preliminary study, designed to discover trends in a possible relationship between weather conditions and hearing acuity.

PHYSICAL PLANT

A controlled atmosphere test room, designed to maintain independently an ambient temperature range of 20° to 95° F., and a relative humidity from 40 to 95 per cent, was constructed by the School of Engineering at Michigan State University (where the investigator was teaching in the Department of Speech). The operation of the heating, cooling and humidifying equipment was under the direct supervision of Professor Donald J. Renwick and a group of his graduate students in mechanical engineering.

The basic structure of the room, a portable cold storage unit purchased as war surplus material, was set up in the basement of the Engineering building. This position afforded relative freedom from noise of street traffic and of passing students. The structure was enlarged and modified to meet the requirements in the design of the test room. Additional insulation and sound treating of the walls, ceiling and floor were necessary not only to obtain a quiet room* with less than 24 decibels of noise, but also to provide a room in which the temperature and relative humidity would remain constant during the test period.

Other modifications included the addition of a vestibule, something like a sound lock, around one entrance to the test room, and the installation of a double glass window in an outside wall. The window served two purposes: (1) to allow the operator to observe the subjects in the test room, and (2) to eliminate somewhat the feeling of being closed in.

A second room, adjacent to and directlv behind the test room, housed the mechanical equipment, which included one 5HP Frick refrigeration unit with Minneapolis-Honeywell dampers and controls, McQuay heating and cooling coils and humidifying apparatus. A Brown electronic multipoint temperature recorder and miscellaneous instruments and controls were used to maintain combinations of temperature and relative humidity selected for each test.

At no time during the experiment was it necessary for the investigator to assume responsibility for the mechanical equipment and its operation. The investigator was responsible, however, for all equipment used in and related to the audiometric tests.

The audiometric equipment consisted of Model AE 21 Sonotone Pure Tone Clinical

*Tolan and Watson define a quiet room as one in which the noise "level" does not exceed 35 decibels. They report that the testing rooms of otologists who were surveyed in a study to determine the effects of office noise on audiometry, had an average noise level of less than 24 decibels, and that the soundproofed booths of the U. S. Public Health Survey averaged 25 to 42 decibels. The results of the Public Health Survey Hearing Studies conducted in those booths were used in the determination of normal hearing and in the founding of the absolute calibration of all audiometers. (Leland A Watson and Thomas Tolan, *Hearing Tests and Hearing Instruments*. Baltimore: The Williams and Wilkins Company, 1949, p. 25.)

Audiometer,* two dynamic air conduction receivers matched as to frequency response and output, one reaction type bone conduction receiver, a double headband, a microphone, and a signal cord and lamp. The audiometer had a built-in masking device and a tone interrupter.

The audiometer was placed outside the test room with all the cables to the various receivers and signaling devices sealed into the walls and projecting into the test room. Since exposure to excessively high temperature and humidity softened the plastic diaphragms of the receivers and altered the output by one decibel loss for each half hour of exposure to temperature of 90° F. and relative humidity of 95 per cent,** the receivers were dried between each test period by placing them in a desiccator jar charged with anhydrous calcium chloride.

The audiometer generated pure tones from 125 to 12,000 cycles per second with both the traditional tuning fork scale and the multiples of 1000. The frequencies used in this study were 125, 250, 500, 1000, 2000, 4000, and 8000.***

The distance between the operator and the subjects necessitated the use of the signal light instead of the hand signal or affirmative and negative nods preferred by some audiometrists.

Miscellaneous test equipment included clinical fever thermometers, a stop watch, audiogram blanks and colored pencils.

While the choice of temperature and humidity combinations for this study was dependent somewhat upon the capacity of the mechanical equipment, the range from 20° to 95° F. and humidity from 40 to 95 per cent was sufficient to permit testing in the following combinations.

The first and seventh, or last test, used the same temperature and humidity combination.

Test	Temperature	Humidity
1	70°	50%
2	70°	65%
3	90°	65%
4	90°	80%
5	50°	70%
6	20°	80%
7	70°	50%

*Accepted by the American Medical Association and The American Standards Association in February, 1949.

**According to data obtained from the Sonotone Corporation, exposure of one half hour in a temperature of 90° F. and relative humidity of 95 per cent produced a change of less than 1 db at all frequencies from 125 to 8000 cps.

***This scale was accepted by the American Standards Committee on Acoustical Terminology in 1946.

This afforded a recheck at the so-called "ideal comfort zone."

THE SUBJECTS

The subjects used in this study were fourteen male students between the ages of 18 and 28. Seven of the group had normal hearing, and seven had a loss of at least 35 db in the frequencies from 125 to 8000 cps. The hearing acuity of the entire group ranged from well above the normal threshold to 70 db below the normal threshold in one or more frequencies. Physical examinations showed that they were all normal, healthy adults, although the examining physician felt that Subject 8 was a mild spastic. Subject 7 had had poliomyelitis, but there was no evidence of paralysis at the time of the examination. Otorhinolaryngeal examinations indicated that six of the seven hard of hearing group had obstructive deafness, and one had mixed deafness. Four had losses in the right ear, one in the left, and two had bilateral losses with the left ear the poorer of the two.

TESTING PROCEDURES

The testing procedures consisted of two phases. In the first phase each subject was exposed individually to the selected combination of temperature and humidity for a period of 30 minutes. His physiological reactions were observed and recorded. During this period the subject filled out a questionnaire relative to his feeling of well-being, any unusual activity which might affect the test, and his degree of comfort in the test room. He noted the onset of sweating or shivering, nasal drip or headache. The subject was not instructed in the type of reaction to look for, but instead, he was asked to describe how he felt in the room. The subject's pulse rate and temperature were checked and recorded just before he entered the test room, and again when he left. The choice of the 30-minute waiting period in the test room was based on earlier experiments of Wright[10] to determine the reaction of individuals to slowly rising temperatures.

It is important that a distinction be made between a *reaction* to an immediate change in temperature and humidity and *acclimatization* to a change in climate. The latter requires approximately three years, and in some cases the thermal regulating systems of individuals never adjust adequately to a change in climate. Acclimatization is concerned with a change in body chemistry and in the thickness of the thermal regulating tissues, while day-by-day or seasonal reactions which result in interference with the normal physiologic functions of the body are dependent upon the characteristics of the individual heat regulating systems.[9]

The second phase of the testing procedure was the administering of the audiometric test

after the 30-minute exposure period in the control room.

The operation of the audiometer was in accordance with instructions from the Sonotone Corporation,[11] and the testing techniques followed the practices recommended by Watson and Tolan.[12] All hearing tests were begun at 1000 cps in accordance with the practice recommended by Witting and Hughson.[13] After determining the threshold at 1000, evaluations were done at 2000, 4000 and 8000 cycles, following which the operator rechecked 1000 before testing at 500, 250 and 125. Air conduction tests on both ears were made for all subjects. The hard of hearing subjects were tested with and without masking. Bone conduction tests, with and without masking on the better ear, were given only to the hard of hearing group. The frequencies explored in bone conduction were 125 through 4000 cps.

A stop watch was used to ascertain the lapse of time between the introduction of the auditory stimuli and the signal light response. These data were recorded on audiograms for each subject for each test in the 7 combinations.

The data were compiled for each subject in an individual case study which included physical and otorhinolaryngeal examinations, psychological examination, scholastic standing, audiograms, questionnaires, summary tables and other pertinent information relative to outside weather conditions, such as barometric pressure inside and outside test room, wind velocity and direction.

While the results of the audiometric tests were of prime interest, other physiological reactions measured during the testing period and the observations and subjective evaluation of the subjects and the operator contributed to the study.

CONCLUSIONS

Within the limits of the present study, the following conclusions seem to be justified:

1. In identical combinations of temperature and relative humidity, as used on the first and last test, the subjects showed (in 37 out of 42 audiometric measurements) no significant difference in hearing acuity.

2. At the extreme limits of temperature and relative humidity, the subjects showed (in 33 out of 42 audiometric measurements) hearing losses greater than the 5 db normally expected on successive tests for the same individual.

The hard of hearing group showed more losses than did the normal hearing group. One subject, for example, had a 20 db loss in the frequencies 500, 1000 and 4000 in the combination 20° 80%. His loss at 2000 cps was 15 db. The same subject has a loss of 45 db on bone conduction at 250 and 1000 cps in the 20° 80% combination. Losses of 15 to 25 db at 500, 1000 and 2000 cps were noted with other hard of hearing subjects, in the extremes of temperature and humidity.

Among the normal hearing subjects, two had losses greater than 10 db at 500, 1000, 2000 and 4000 cps in the extremes of temperature and humidity. Subject 7, who had had poliomyelitis, experienced a 30 db loss at 1000 cps in the 90° F. 80% combination, 20 db at 500 and 4000 and a 15 db loss at 2000.

3. In general, hearing acuity is highest at a temperature of 50° F. with a relative humidity of 70 per cent (27 of 42 measurements).

4. In general, hearing acuity is lowest at a temperature of 20° F. with an accompanying relative humidity of 80 per cent (18 of 42 measurements), or at 90° F. with a relative humidity of 80 per cent.

5. According to Huntington's theory, the best mental work is done at 50° F. with a relative humidity of 70 per cent. Auditory acuity was highest in 27 of 42 measurements and second highest in 8 of 42 measurements in this combination, a fact which may account for the quality of the mental work.

6. According to Huntington's theory, the best physical work is done at 70° F. with a relative humidity range of 50 to 65 per cent. Auditory acuity was highest in 8 of 42 measurements, and second highest in 28 measurements in the combinations of 70° F. with a relative humidity of 50 per cent and 70° F. with a relative humidity of 65 per cent.

7. There was no significant difference in hearing acuity (more than 5 db) between 50° F. with a relative humidity of 70 per cent, on the one hand, and 70° F. with a relative humidity range of 50 to 65 per cent.

In sum, the optimum temperature and humidity combination for hearing acuity, according to the results of this study, is 50° F. with a relative humidity of 70 per cent, and the combination 70° F. with a humidity range of 50 to 65 per cent next best.

Further research is needed in this area. The results of this preliminary study indicate trends in a relationship between temperature and humidity and hearing acuity. Hundreds of subjects should be tested, not only in the combinations used in this investigation, but in temperatures well below 20° F. and above 90° F. Lower limits of humidity percentages should be used also in the combinations.

One of the unexpected physiological reactions measured during the testing period suggests still another field of investigation. This concerns the lapse of time between the introduction of the auditory stimuli and the signal light response. In the extreme limits of temperature and relative humidity the subjects were found to have delays from 3 to 18 seconds. Ten of the fourteen were delayed in the

combination 95° 65%. Thirteen of the fourteen were delayed from 5 to 18 seconds in the combination 90° 80%. Four of the fourteen were delayed 3 to 18 seconds in the combination 20° 80%, but in the combination 50° 70% only one used from 3 to 6 seconds. In the ideal comfort zone, 70° and 50%, the responses for all 14 were immediate. Perhaps there is something to the complaint that we just can't get going when the humidity is up. Several large industries, steel mills and oil refineries, have become interested in this marked decrease in reaction time in extremes of temperature and humidity. They feel that it may be a clue in their search for accident factors among their employees.

Hippocrates may have been right. Perhaps we should watch out for the weather and its effect upon the human organism.

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Social Integration and Effectiveness of Speech

WALLACE BRUCE

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Pure oralism as viewed by an administrator, teacher, parent or student is founded upon five basic assumptions:

1. That the vast majority of deaf children can attain academic, vocational, social and emotional maturity sufficient to permit active participation in the hearing community.

2. That a large majority of deaf children can attain a degree of speech intelligibility that will allow them to be understood in most public situations.

3. That a substantial majority of deaf children can develop sufficient skill in speechreading so as to be able to utilize it as a primary means of communication.

4. That a more complete and satisfying life can be enjoyed by the deaf if they are able to participate in activities within the hearing community as well as to continue as a member of the deaf organizations.

5. That the attainment of these four goals is dependent upon the willingness and ability of teachers, the willingness and ability of parents and the willingness and ability of students to adhere to a rather rigorous philosophy of life, one aspect of which is pure oralism.

Pure oralism is approaching its hundredth birthday in America. With over 80 years' experience in sending graduates into the hearing community, the advocates of this form of education should be willing to accept the probability that sufficient evidence is now available to test the validity of the assumptions of pure oralism.

Is this method adaptable to the vast majority of our deaf students, or is it self-limiting to a select group? To what extent have deaf adults been able to integrate into the hearing community? How does the speech of the deaf adult meet the demands of daily living? What problems are inherent when a minority group attempts to participate with a sometimes indifferent majority?

It was our hope that this study might give added insight to the accomplishments and difficulties of the orally-trained adult deaf.

SCOPE OF THE STUDY

The graduates of Clarke School for the Deaf for the years 1943-1952 were selected for study. They have been living in the hearing community for a minimum of six years, ample time for the development of attitudes and the formation of adjustment patterns.

Sixty-two alumni were found to be living in New England. Fifty-three comprise this study. (Two chose not to participate and contact could not be made with seven others.)

A personal interview was selected as the most practical method of determining the speech ability and social integration of the alumni. This method offered many advantages over the questionnaire. It afforded an opportunity to visit with those who might be hesitant in answering a questionnaire. It minimized possible misunderstandings in questions and answers. It made more thorough discussion possible whenever the situation so demanded.

A work sheet of some 72 points of information was developed. Additional background material covering 31 items was obtained from school records.

Although the study was financed by the Clarke School, it was carried out under the direction of the Institute of Special Education and the Educational Psychology department of the University of Utah.

Travel and scheduling problems made it impractical to request appointments. In most cases a drop-in visit was made. The study required over 4,000 miles in travel and approximately 100 hours of interview time.

ACADEMIC ACHIEVEMENT

There were 42 deaf, 3 deafened, and 8 hard of hearing graduates in the group studied. In the area of academic achievement there were no significant differences in the degree of attainment between the three categories.

Seventy per cent of the graduates scored above 8.0 on their final Stanford Achievement tests prior to graduation from Clarke; 25% scored between 6.0 and 7.9; and 5% scored below 6.0.

Fifty per cent of the graduates enrolled in academic high schools upon graduation (only ten per cent of this number attended private schools); 26% entered vocational schools; and 24% sought employment. (Note: The large majority of these alumni feel that if a guidance program had been in operation at the time of their graduation they would have continued their education. Today this percentage is around 10%.)

Eighty-five per cent of those beginning their work in academic schools received high school diplomas. (Note: Careful evaluation of their experiences has led us to believe that with but one or two exceptions the alumni had successfully carried the academic program and had not been socially promoted.) Twelve per cent enrolled in high schools where conditions required their withdrawal and transfer to vocational schools. (This was prior to formation of the Clarke guidance program.) Ninety-two per cent of those who entered vocational programs completed their training and found employment. Twenty per cent of those who graduated from high school continued on to college.

One of the questions concerned the advantages and disadvantages of attending a high school for the deaf. Eighty-seven per cent felt that the disadvantages far outweighed the advantages. There was little academic justification for attending a high school for the deaf. Some alumni felt that social immaturity might justify a few deaf students attending until they had been better prepared to participate in the hearing community. The most common response was that they had been with the deaf long enough and that it was time to begin living with hearing people.

The graduates were aware of the problems created by large classrooms, class discussions, immobile lips and the occasional need for individual assistance. In some situations they felt adjustments and compensations were possible; in other cases it would be a case of grin and bear it.

SPEECH

Some 15 points of ability in speech and communication were investigated. Points evaluated included:

How well do strangers understand their speech?

How well do they understand strangers?

How often do they rely upon their speech and speechreading?

How do they react when communication breaks down?

What problems do they encounter in purchasing tickets, shopping in a department store, talking with the doctor, and visiting with the neighbors?

Generalizing their responses we found:

37% reported they had only minor difficulties with strangers.

39% reported frequent minor difficulties that were usually solved through repetition and putting the listener at ease.

24% reported that they occasionally resorted to notes when communication broke down.

(A group of 18% was classified as not being able to use speech in daily contacts, although half were able to use speech at home and with friends.)

In their vocational activities they reported as follows:

60% reported complete dependence upon speech.

22% reported occasional recourse to gestures or notes. This was usually in factory positions where the noise was a particular problem.

The group of 18% generally used gestures and notes in their positions of employment.

SPEECHREADING

49% reported complete reliance upon speechreading with only minor problems.

35% felt that repetition and explanations of being deaf usually resulted in successful re-attempts.

20% reported occasional recourse to notes, usually as a double-check to their speechreading.

Once again the 18% that had speech problems expressed feelings of inadequacy with their lipreading.

Upon investigation and discussion it was found that about 40% of the graduates are in

vocational positions where continual use of speech is required. An additional 17% reported they could retain their positions if they were non-oral, but that some changes in responsibilities would be required. Many alumni stressed that the choice of vocations for an orally proficient deaf person was far greater than that for the non-oral deaf. Nearly six out of every ten were working in positions that would probably have been closed or changed if they had not been able to use speech and speechreading as primary forms of communication.

SIGNS AND FINGER SPELLING

In the beginning there was some question as to whether the comments and reports on these forms of communication would be valid projections of the attitudes of the alumni or whether they might be influenced by the strong position Clarke School takes concerning their place in the education of deaf children. We were anxious to determine present philosophy of the subjects, and not receive mere echoes of past training.

Inasmuch as I had previously been employed by a school where signs were the primary form of communication, I explained my desire to determine what the alumni actually felt so that I might compare their attitudes with those of my non-oral acquaintances. The responses appeared to be frank and honest appraisals based on personal experience.

49 out of the 53 graduates reported that signs and finger spelling were not primary forms of communication for them.

60% reported they had learned some signs and finger spelling so that they might communicate with the non-oral deaf who would otherwise be unable to communicate with them.

80% reported that when visiting with other orally-trained deaf they preferred to use speech and speechreading.

85% felt that excessive use of signs and finger spelling would reduce the efficiency of their speech and speechreading.

Many expressed the feeling that one of the reasons more deaf adults who had attended other schools didn't use their speech and speechreading more was due to a lack of training and confidence that should have been acquired while in school.

The general attitude of the alumni toward their speech and speechreading can be best described by quoting from several of the interviews.

1. When I moved here the people didn't believe I was deaf. All of the deaf here use signs and write notes. I wouldn't sign and didn't write notes. I talked to them. After they got used to my speech they stopped me on the street and talked. They come to our trailer now to visit. I earn extra money by baby-sitting. Everyone is very good to me. My husband wishes he had been taught to speak and read the lips. We practice at home.

2. When I quit my job to have a baby, the girls in the office had a surprise party. They gave me a new hearing aid. I was so happy that I started to cry. They told me how much I had helped them because I didn't give up. I told them how much I loved them because they were so patient and kind.

3. Talk and ask! Then the world will help you.

4. It is much easier to find a good job if you can talk and read lips.

5. It will be easier for our hearing children if we talk and read lips.

6. Don't give up in the beginning. It took time for the people to get used to my speech. Now we don't have any trouble.

7. If I don't understand, I ask them to repeat. When they see that I really want to understand and learn they have lots of patience.

8. When I saw how many deaf people couldn't talk I was thankful my parents had sent me to a school where the deaf were given a chance to learn.

9. My wife cried when she saw how many of the Clarke alumni could talk. They didn't make the children talk at her school.

10. Clarke is like a little world. The deaf world is also very little. I wanted to live in the hearing world.

PERSONAL EVALUATION OF SUCCESS

The degree of speech and speechreading proficiency attained by the alumni were attributed to the following:

1. Trained teachers who never gave up.

2. Being forced to rely upon speech and speechreading 24 hours a day.

3. Indoctrination by teachers and alumni that the speech of the deaf can become clear enough to be understood by the hearing community.

4. Gradual appreciation of the opportunities and advantages coming out of an ability to communicate with hearing people.

5. Willingness to constantly strive to maintain and improve speech and speechreading abilities.

6. The levels of attainment gained by many alumni. These people serve as a source of encouragement, stimulation and challenge.

THE MINORITY

Of particular interest were the attitudes and expressions from those who felt their speech and speechreading were not adequate in daily communication. There were 11 people in this group.

Two felt their basic problem was one of shyness.

One graduated from high school, relying mainly upon notes. He felt his basic disposition made it difficult for him to concentrate on speech sounds and moving lips.

Three were from the educable range of intelligence. At present they are married, employed, active in alumni affairs, and appear to have developed to their maximum potential.

One came from a bi-lingual environment and didn't begin his education until the age of twelve.

Four are non-oral by choice, although two of them hoped that Clarke would accept any deaf children they might have.

When asked if they felt they might have been better prepared and have been able to learn more in a school not as rigidly pure oral, 9 of the 11 replied, "No."

SOCIAL INTEGRATION

Distinct from the ability to communicate with the hearing community is the ability to be accepted (not merely tolerated—but actually assimilated) into the activities at school, within the union, at the church and in the neighborhood.

In this area the findings ranged from almost complete assimilation to almost complete isolation. One significant fact emerged time and time again, however. Forty-nine of the fifty-three graduates stated that the degree of participation and level of acceptance was not determined by the hearing community, but by the deaf person. His qualifications and attitudes were the important factors. The initiative rests with the deaf—not with the hearing. First steps are to be made by the deaf, not the hearing.

Using some 60 items of activity, experience and response, each alumnus was judged as to the degree of participation in the hearing community.

At school: 25% participated in what might be termed average amounts of school affairs; 50% were occasional participants, and 25% seldom took part in any school activities.

In the community: 30% appear to be taking an active part in the community; 30% are fairly active; 20% are occasional participants, and 20% have made no attempt to participate.

At places of employment: 40% appear to be taking part on equal terms with their coworkers; 36% report occasional participation, and 24% apparently are usually left out.

These findings could readily be used to justify any conclusion concerning the successful integration of the deaf, favorable or otherwise. They do reveal a wide variance in the success of the alumni. They show several areas of apparent weakness. Realizing the danger in attempting to generalize over 500 criticisms, comments and suggestions, I would nevertheless like to submit the following eight statements as indicative of their feelings.

1. The alumni were not socially prepared to the extent that they were in academic and vocational areas.
2. They felt this social inadequacy had seriously hindered their ability to function within the community. (They did agree that present policies at the school have eliminated most areas of weakness.)
3. In many cases the homes contributed little toward any social preparation or maturity. The parents appeared at a loss as to their role in this phase of their children's education. This problem apparently was most evident during the summer months.
4. The social bewilderment of the public high school was a far greater obstacle to many than was the academic work load. This was particularly true in regards to dating and relationships with the opposite sex.
5. There was a general feeling that living in a residential school often isolates the student from the community.
6. Participation in the activities of the hearing community does not come easily or without considerable practice and preparation.
7. The hearing community, when oriented, usually lends itself favorably to participation by the deaf.
8. Failure to attain the desired level of integration can usually be attributed to lack of training rather than to lack of ability or the presence of the handicap.

In reply to questions designed to bring forth the factors of motivation causing the desire to participate in the hearing community the following reasons were taken in order of their prevelancy:

1. The hearing people are viewed as a source of information and help. "They let us know what is going on."
2. They make it possible for the deaf to participate in many activities that otherwise would be closed.
3. They challenge the deaf to keep abreast of what is popular and current.
4. They encourage the deaf to maintain their speech and speechreading.
5. Being with the hearing minimizes the tendency to withdraw into the deaf world.
6. If the deaf have hearing children, hearing friends are of great assistance.
7. By associating with the hearing, the deaf gain in self-confidence.
8. The hearing can assist in obtaining better vocational opportunities than are usually available through agencies and classified ads.

Another part of this section concerned the break-down between hearing, oral deaf, and non-oral deaf friends. (Figures for the hard of hearing group are omitted.)

50% associate equally with the hearing and oral deaf

12% divide their associates between the hearing, oral deaf and non-oral deaf
12% associate only with the oral deaf
14% associate with oral and non-oral deaf
12% have mainly non-oral friends

"What have you learned that would be of value to the future graduates?" The responses have been grouped as follows:

1. Have someone explain about deafness before you arrive at the school or on the job.
2. Break the ice. Go to the hearing people first. Make friends and don't be afraid to talk.
3. Have some hearing friends who will introduce you to other people, but don't become too dependent upon them.
4. Join clubs, be active in sports and hobby groups, volunteer for jobs.
5. Develop a sense of humor. Don't give up with hearing humor.
6. Learn what others are interested in—become interested in it, too.
7. Don't give up just because you have a few negative experiences.
8. Let people see that you are working hard and are willing to meet new people and try new things.
9. Be patient with hearing people. Help them as they learn to adjust to you.
10. A home and children are excellent opportunities to get acquainted with your neighbors.
11. Don't be easily offended or hurt.
12. Keep up on the current news and chit-chat.
13. Have a good balance between hearing and deaf friends. (You have a need for both.)
14. Keep your speech and speechreading at optimum levels.
15. Don't try to become a second-class hearing person.

CONCLUSION

To what extent have the five assumptions upon which oralism is based been verified?

1. The speech and speechreading abilities of the graduates appear to be sufficiently developed to allow approximately eighty percent to use the two methods as primary means of communication.
2. Only a small segment of the graduates have been unable to continue their education and vocational training in schools for the hearing.
3. The alumni have a strong desire to participate in the activities of the community. When properly prepared they have generally been successful. Weakness and failures can be attributed to lack of preparation more than to inability.
4. The alumni have not attempted to escape from the deaf world.
5. Those alumni whose speech, speechreading, and academic achievement were limited do not feel they would have gained more in a less oral program.
6. The possibility of active participation within the hearing community exists as a result of pure oralism. The probability of such participation rests with the administrators, teachers, parents and students as to whether they feel the attainment justifies the effort required.

Testing Lipreading Potential

SAMUEL D. MILESKY

Mr. Milesky is supervisor of the schools for the deaf and visually handicapped, Bureau for Handicapped Children, State Department of Public Instruction, Madison, Wisc.

In the oral education of deaf children, speech and lipreading are tools which can mean the difference between achievement and failure, integration and isolation.

Of the two, lipreading, being the receptor skill, is to me, the more important. Incurring a hearing loss does not, unfortunately, insure one good lipreading ability.

Each of us might be said to have a tendency toward learning best through aural means or visual means. Obviously, if a youngster is visual-minded and deaf, his hearing loss will have less effect on his learning. Quite as obviously, if a youngster is aural-minded and deaf, his loss of hearing will have a more serious effect on his learning.

Scientifically, it is difficult to isolate the elements involved in lipreading ability. However, certain factors can be studied which could point to basic qualities necessary.

The following testable elements have been selected as parts of a composite profile of information on a child which could shed light on his ability to read lips:

1. chronological age
2. mental age
3. social maturity
4. vocabulary level
5. language level
6. visual retention level
7. ability to meet new situations
8. personality integration
9. analytic ability
10. synthetic ability

One ingredient, motivation or drive, cannot be tested, although this perhaps is one of the most important factors in lipreading ability. Kinzie* refers to this as will power.

However, chronological age and mental age give us a measuring stick against which to compare the levels achieved in the other areas. Social age or maturity can give an indication of adjustment to environment. Vocabulary

*Kinzie, Cora and Rose, *Lip Reading for the Deafened Adult*. Philadelpha: John C. Winston Co., 1951.

level and language level tests show how much the youngster is above or below his capacity and can explain, sometimes, the lack of understanding when due to meager vocabulary background. The visual memory test can be used to point out ability to remember through sight.

A test to measure ability to meet new situations which, of course, is continuous in the speechreading process, is quite important since a constant adjustment and evaluation is mandatory.

The knowledge of personal integration is valuable in indicating a relationship between the child and the world. Important tests for an analytical type of mind or one with a synthetic outlook aid greatly in discovering those who must see each element and those who see things more as a whole. A more intensive test for personality could augment this area to point out those who tend to take a chance or those who are more conservative.

For each of the foregoing areas, standardized tests are readily available in sub-tests of the Binet, Ontario, Wechsler and other scales. Also, the Vineland, Goodenough Draw-a-Man and the Benton Visual Retention tests are easily obtained.

Therefore, in consultation with Daniel Mathias, staff psychometrist at the Bureau for Handicapped Children, and as a matter of practical consideration, it was decided to create a "Wisconsin Battery" composed of the following in two parts:

A. For children between the ages of seven and nine
   1. Ontario School Ability Examination
      a. Knox Blocks
      b. Color Patterns
   2. Vineland Social Maturity Scale
   3. Goodenough Draw-a-Man
   4. Coding from the Wechsler Intelligence Scale for Children
   5. Benton's Visual Retention Test
   6. Language level (Stanford or grade achievement)
   7. Vocabulary level (Stanford or grade achievement)

B. For children between the ages of nine and eleven
   1. Wechsler Intelligence Scale for Children (performance)
      a. Coding
      b. Picture Completion
      c. Block Design
      d. Object Assembly
   2. Vineland Social Maturity Scale
   3. Goodenough Draw-a-Man
   4. Benton's Visual Retention Test
   5. Language level (Stanford or grade achievement)
   6. Vocabulary level (Stanford or grade achievement)

All the foregoing tests and sub-tests are translated into terms of Mental Age so that a common measure is had. When the individual test results are placed on a graph (Figure 1) they can be compared to the Mental Age achieved on the intelligence test. It is easy to see then, whether or not a child is operating to his mental capacity in each area. The degree to which each lipreading factor is used to potential capacity and the relative position it holds with the others has a bearing on the conclusion to be drawn from the profile. The technique of *reading* the graph is one which must be developed by each *reader*.

A check list was given to teachers to record their impressions of each child's lipreading potential. After scoring and recording these tests, the teacher's opinions were checked against the results as shown on the graph for each youngster.

During this investigation, 116 children were seen and a few results are not yet compiled. However, it was found that children older than 12 years did not give a true picture. That is, the graph became skewed and did not reflect a prognostic viewpoint. This was true regardless of school attended—day or residential. Much of a child's speechreading habits become set by early teens, and so the potential for which we are searching has been reached.

This battery works better with the children from about seven to nine years of age. Perhaps, as analytical ability is so needed in the first years of lipreading training, a deficiency in analytic leanings could be bolstered as a result of this testing.

It must be understood that in Wisconsin the children in day classes or the residential school are started out in their early years with the oral approach. We feel that they must be saturated with speech and lipreading to give them a chance to learn as normal hearing children are apt to. The time to change, if at all, would be influenced by the test results. This is merely another set of facts which can help us better to understand the needs of hearing impaired children.

I shall show now the graphical representations of three illustrative cases which demonstrate some of the variances one might expect and to indicate the method of interpreting the results.

In Figure 1, the factors which will tend to hinder proficiency in lipreading are the scores on social achievement, the lack of ability in vocabulary and language, the low coding results, and the color patterns score. They indicate lack of poise, poor background for understanding, very poor ability in meeting new situations and the inability for seeing things in their wholes. This latter is corroborated by the high score on Knox Blocks which

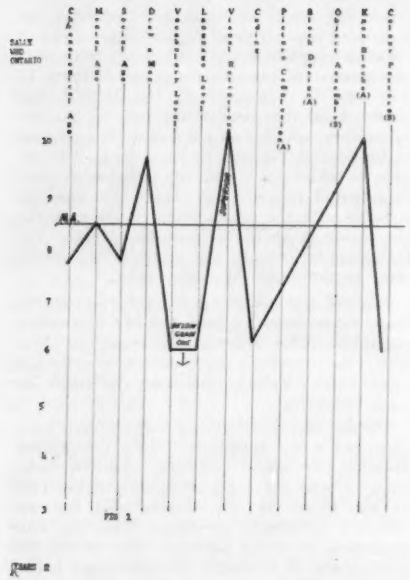

FIG 1

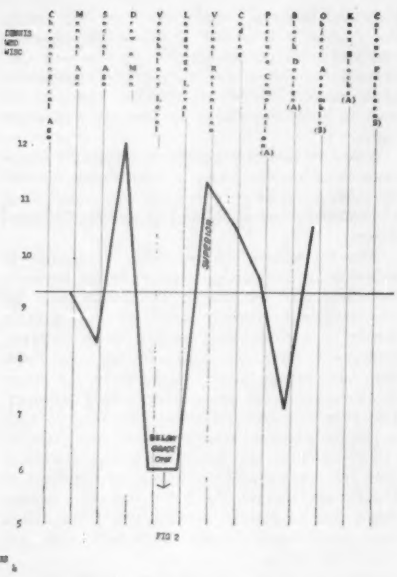

FIG 2

shows good analytic ability or seeing the minute aspects of a situation. This girl's good personal integration and superior vision retention are in her favor. The prognosis here would be that she has average ability, and not to expect too much from lipreading.

Figure 2 shows a boy whose prognosis would be good for lipreading. Although he may be a bit immature and shy and his language background needs attention, his pattern toward superior visual retention, his ability to meet new situations, and a synthetic outlook, all indicate a favorable prognosis. These are all above his Mental Age line.

The child in Figure 3 probably will never make a good lipreader. His teachers agree.

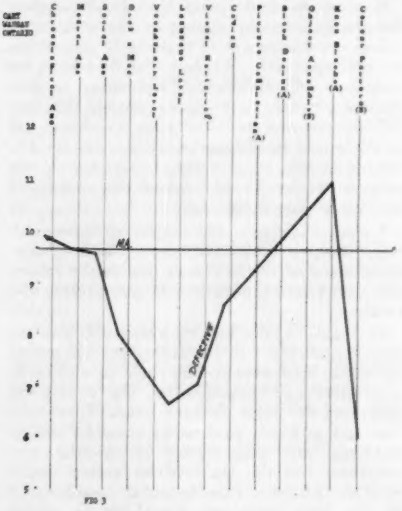

FIG 3

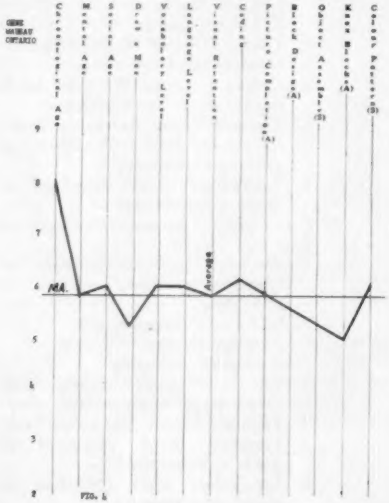

FIG. 4

All sub-tests appear below his Mental Age level except the one which shows analytic ability or the need to see each small part. This will tend to hinder good speechreading.

A most interesting case is depicted in Figure 4. There were conflicting reports from the school and the clinic about his lipreading ability. It wil be noted that the sub-test scores cluster closely about the Mental Age. The sub-test for analytic ability is a bit further off. The important fact in this case is that the lad was working up to potential. His retardation caused the misunderstanding, and too much was expected of him. Therefore, since his achievement is up to his capacity in all positive factors, his prognosis for speechreading is good, provided the content is not beyond him.

This investigation has been in progress for two years but much more study is necessary. We must take known good lipreaders and known poor lipreaders in order to check the appearance of the graphs to discern common patterns.

It was found that a high score on the test for analytic ability usually was accompanied by a low score on the test for synthetic ability and vice versa.

We may find, after further experimentation, that the sub-test, Memory for Digits Forward and Backward, from the WISC can be used for a more complete picture of aural mindedness.

It can be assumed that since the sub-tests used constitute the greater part of an intelligence test and represent factors in lipreading ability, there may be a closer correlation between measured intelligence and the ability to read lips than formerly suspected. This warrants investigation.

One important result of this study is that it behooves us to know all we can about a child. This battery may help teachers understand and accept the limitations of each child so that inappropriate teaching can be reduced to a minimum.

It is to be emphasized, then, that this study attempts to show that psychometrics can tell us more about children if we would only delve into each sub-test's meaning; that teachers' understanding of children may be enhanced by a closer look at reasons for apparent lack of achievement; that many times supposed poorness in lipreading may be due to a correctible factor; that a realistic approach may be possible once the teachers are fortified with information.

Further experimentation and study will be carried on and constructive suggestions are requested from all interested.

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The Cerebral Palsied Child With A Hearing Loss

MARIE ORR SHERE

Dr. Shere is assistant professor of speech at the University of Illinois. The following is an abstract of her paper.

The purpose of this paper is (1) to present examples of stereotyped thinking about cerebral palsied children; (2) to indicate certain studies in which cerebral palsied children have been used as subjects; (3) to discuss the conclusions reached as the result of such studies and (4) to point out the implications of these conclusions to all who are in any way engaged in the education or training of cerebral palsied children and especially to teachers of the acoustically handicapped. The high incidence of hearing loss among cerebral palsied children causes many of them to be found in schools and classes primarily designed for children with impaired hearing.

Four examples of stereotyped thinking are cited:

1. Emotional instability is inherent in the cerebral palsied.

2. There exists a cerebral palsy personality —spastics, athetoids, ataxics each have their peculiar behavior patterns.

3. Cerebral palsied children cannot be taught to listen, to concentrate, or to conform to social or educational standards.

4. The cerebral palsied child will outgrow his abnormalities.

None of these stereotypes have been supported by controlled research. On the other hand, the results of research have these important implications for parents and educators:

1. Avoid stereotyped thinking. Consider each cerebral palsied child as an individual.

2. Make each lesson diagnostic as well as therapeutic.

3. Set realistic goals which are appropriate to the potentiality of each child.

4. Make the parents an integral part of plans for education and training.

A Hearing Conservation Program

KENNETH G. STOCKDELL

Mr. Stockdell, former director of the regional hearing conservation center in Elizabethtown, Ky., is now clinical audiologist, Veterans Administration, Louisville, Ky.

The purpose of the hearing conservation program for children in rural Kentucky has been based upon four areas of concern; namely primary prevention by treating infected ears to prevent hearing loss, secondary prevention involving early case finding to prevent further loss of hearing, correction of remediable defects by means of surgery, and rehabilitation through prosthetic devices and educational placement.

The objective of the hearing conservation program in Kentucky is to provide service, and an effective program of health education to inform the people of the means available, and, enable the children to have adequate care.

Initial hearing conservation measures in Kentucky began in 1951, however the development of a generalized program was slow to evolve. The hearing conservation section was established in the Division of School Health of the Bureau of Maternal and Child Health. Of the 120 counties, all having local health departments, eight counties conducted hearing conservation programs in 1951 with 5,412 children being screened. Each year the screening program has progressed, and presently there are 57 counties conducting screening programs involving 60,000 to 70,000 children.

The program was not satisfactory in its beginning, as it consisted mainly of case-finding. Medical referrals were made; however there was little or no follow-up of the cases. The program may be considered successful in that it pointed out the prevalence of hearing loss and the problem of the hearing handicapped in Kentucky.[1]

As the testing proceeded, it became evident that facilities were needed to give a differential diagnosis of each case having a hearing defect. In 1954 the first audiology center was established through the efforts of various organizations and placed in Lexington at the University of Kentucky. A study in selected Louisville schools, underwritten by receipts of the WHAS Crusade for Children Telethon, pointed out the need for more facilities. The Kentucky Society for Crippled Children, Inc., which had previously helped in the establishment of the clinic at University of Kentucky, met this need in 1957 by establishing a Hearing and Speech Clinic in Louisville. Since the beginning, both centers have received referrals from the state hearing conservation program.

Although these two centers gave great impetus to the program, there was still a need for closer communication and understanding of the problem of the hearing handicapped on a local level. This being evident, the establishment of regional hearing conservation centers was formalized and the first such center was made possible at Elizabethtown by a grant from the WHAS Crusade for Children. This center serves an area of 23 counties in central Kentucky. The director is concerned with the development of hearing conservation programs in these counties. A follow-up of each case enables the hard of hearing child to have the benefit of whatever rehabilitation service is available to him. The director also coordinates all the resources within the area in helping to promote the program of hearing conservation.

In order that the regional hearing conservation center could be promoted and developed more on a community basis, the Elizabethtown Junior Women's Club consented to sponsor the center, providing volunteer secretarial help and forming an advisory council with representatives serving from each county. Each of the council representatives works to promote the services of the hearing conservation center to his respective county.

Since the program was not always satisfactory, due to lack of interest, facilities for follow-up and inability to conduct the program locally, newer policies have developed. Before the program is inaugurated in a county an investigation is made to determine the interest, possible assistance in follow-up and the rehabilitative measures available. With the council representatives and the local health department personnel working together, this information can readily be received. After the investigation has been completed the arrangements for a hearing conservation program are made by the county with the regional audiologist, who will make his services available if the investigation suggests that an adequate program can be conducted.

Present procedure requires that the county health department contact different groups within their scope of operation who will be affected by the program and who will be needed to see that follow-up of the children is completed. The county health department obtains from the county board of health the approval to include the program within its over-all program of operation. Since the physicians will see those children referred from the program, approval of the medical society is obtained, enabling the members to know of the program's operation. As the program operates within the confines of the

school, approval of the superintendent of the county or independent district is also received. When personnel is lacking, volunteers are secured for the screening program. The screening program includes the mass of children in the grade schools and requires much time to check each individual case. The volunteers are interested people, usually parents of the grade school children. It is necessary, following the above procedure, to select a date for the program to begin, and request the regional audiologist to come to the county to initiate the program.

Clearance being secured, the regional audiologist trains the volunteers in using the audiometer for pure-tone audiometrics, including threshold determination. After the training, the volunteers perform screening tests on the children in grades two, four and six, plus referrals from other grades. For all those children who fail to respond in two or more of the octave frequencies of 250-8000 cps at a level of 20 db, a threshold determination is performed. When the work of the volunteers has been completed, the audiologist returns and does a threshold test on those children who have been given a previous threshold test by the volunteer. Following the regional audiologist's determination, the audiograms are reviewed and three copies are returned to the county, with specific recommendations on each case.

Although a large amount of work has been completed, there remains the all important area of follow-up in seeing that the child's problem has been adequaetly cared for and that rehabilitation measures are begun.

The first step in follow-up is a medical examination including an ENT examination. This examination must be completed prior to the comprehensive audiological evaluation. When the child goes to the physician, one copy of the audiogram accompanies him, along with a medical form which the physician completes and returns to the local health department. If treatment is not recommended, or does not improve the hearing acuity, it is suggested that the physician recommend an audiological evaluation. The audiogram, the medical report and an educational history from the school authorities are sent by the local health department to the nearest hearing center when a request for an appointment is made. Audiological evaluations may be received by making an appointment at the two major centers, the two hearing conservation centers in the commonwealth or the hearing and speech centers in cities closely adjoining the commonwealth.

The above procedure is used by all those who are non-indigent cases. Indigent cases are handled in a slightly different manner. The Kentucky Society for Crippled Children has made provisions for hearing aid evaluations and the purchase of hearing aids where needed. To provide for the required ENT examination prior to assistance by the Society one hearing conservation center has established an indigent care fund to help defray the cost of medical follow-up. This fund has been made possible by donations from each county to a central fund to be used as needed. After payment has been assured, the Society notifies the parents of the date of the child's appointment for an audiological evaluation.

The hearing conservation program's purpose is to prevent hearing disabilities, conserve hearing, and to rehabilitate the hard of hearing. The program, beginning in 1951 in 8 counties, has progressed to include 57 counties in 1960. Presently there are two major hearing and speech centers within the commonwealth, and two hearing conservation centers. The hearing conservation centers can perform audiological evaluations and enable rural areas to have access to facilities for determining the needs for their hearing handicapped children. The hearing conservation centers are still in the experimental stage of development, but seem to answer the needs of rural Kentucky.

The present procedure makes use of volunteers in conducting the screening program in cooperation with the regional hearing conservation center and the local health department. Grades two, four and six are tested, with special referrals from other grades. The octave frequencies of 250-8000 cps are used with the intensity level at 20 db. Follow-up of the children with hearing defects requires an ENT examination.

The future of the program calls for expansion, including four more regional hearing conservation centers. The results of the program have been significant, not only in conserving the hearing of the children, but also in educating both professional and lay people in the opportunities for the hearing handicapped.

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Curriculum I Thursday A.M.

Problems and Issues

Chairman: Priscilla Pittenger, Associate Professor of Education, San Francisco State College, San Francisco

Panel of Discussants: Frances T. Phillips, Christine Stricklin, Harriet McLaughlin, and Gladys H. Crawford

Administering Curriculum Change

HERMAN R. GOLDBERG

Mr. Goldberg is coordinator of instructional services for the Board of Education, Rochester, N. Y.

For 22 years I have been reading and hearing top educational pronouncements, scanning professional literature and taking the professional and popular pulse on many issues in special education. For a significant segment of these 22 years, I have been closely connected with the field of education of the deaf child, and in spite of the wider responsibilities I have undertaken in the past 12 years, feel that the title of which I am proudest still is teacher of the deaf.

Like many of you here today, I, too, was an early and complete devotee of the very special parts of our program—speech, language, lipreading and auditory training. I, too, felt the thrill of what it meant to take a child without the ability to speak and to place within him the tools for communicating his basic wants and thoughts. I, too, have joined many of you, over the years, in using rather startling demonstration techniques to interest those who wanted to learn more about the deaf, or whom I felt should know more about the deaf. It was readily understood by all that reading, mathematics, social studies, science and other so-called appendages to the basic communication function for the deaf was somewhere around the school, but most teacher concern revolved around the children's speech production and language usage. There is no denying the importance of these things, but how far up the ladder should we carry the techniques of the primary grades?

More specifically, I should like to ask you some questions which I hope will stimulate discussion in your schools all next year.

1. Do you know the difference between learning and teaching? What is learning? What is teaching?

2. How is the effectiveness of teaching measured? How is learning measured? Who measures learning?

3. Is there any difference between a curriculum guide and a course of study? What do you think a curriculum guide is?

4. Who or what determines the curriculum? The board of education, the board of directors, teachers, parents, your superintendent, your principal?

5. What are instructional materials? Where do they come from? Do you buy them? Do you make them? What basic principles should apply to their use?

6. What is an instructional materials center? Is it a library? A filmstrip cabinet? A map closet? A picture file?

7. How is research related to curriculum planning?

8. What do the emotions of pupils, teachers, parents and administrators have to do with teaching and learning?

The issues I have just listed are rather general and you might ask, "Aren't these basic to all education?" Yes, they are, but let me add a few which are more specific to the education of the deaf.

1. Why is it that so much teaching of the entire class at one time is still being perpetuated? Why do many teachers of the deaf still use the "watch me" approach?

2. Why is it that language workbooks for the deaf which were produced 40 to 50 years ago are still used?

3. What effect has very early, concentrated and intensive auditory training had on deaf children? Has it made them aesthetically more normal? Has it given them the calm, relaxed and warmly accepting atmosphere in which we are told learning best is accomplished? Or, perhaps, has it become too heavily featured as a tangible source of pride in the child's accomplishments to teachers and parents?

4. Why has there been so little creativity in the development of reading materials for the deaf?

5. What about secondary education for the deaf? What more needs to be done, especially in the academic areas?

6. As programs for the intellectually gifted and for the slow learners have rapidly de-

veloped in most school districts, what has been happening in schools for the deaf? Does gifted suggest solely acceleration? Does borderline or dull-normal ability automatically mean the vocational department? Do you think the curriculum for the gifted should be harder and for the slow learners, easier, or do you subscribe to the proposition that it should be different? If so, what are you doing about it?

7. And finally, why are teachers of the deaf still so satisfied with so many of their pupils who can talk intelligibly, lipread successfully and write correctly, but who understand so little and have so little to say about our world?

Schools at all levels are examining their curricula because of the post-sputnik hysteria. They are being challenged, as never before, for the pursuit of excellence in all they do. Many schools are facing drastic revisions of their programs in science, mathematics and foreign languages, and perhaps you, too, as leaders of education for the deaf, feel the need for a critical analysis of the existing curriculum with a view toward making those changes that seem to be needed. It is possible that an administrator discussing current trends in curriculum change with his staff might find:

1. Strong opposition to the possibility of even thinking of introducing the study of foreign language in a school for the deaf.

2. Moderate interest in examination of the school's offerings in science.

3. Mild surprise that you are questioning the existing arithmetic and mathematics sequences.

4. General apathy toward the idea that the current nation-wide interest in curriculum revision could possibly apply to a school for the deaf.

If this happened in your school, what approach would you take and what reasons would you offer your staff to encourage them to consider supporting your conviction of the need for curriculum review?

Curriculum change does not come easily. It is one thing to know that change should be made, another to know what change should be made and still another to make the change, and the last is the most difficult of all. Every person in education should recognize the truth of this, because some of the changes that are being recommended at present are not new, but the depth of the recommendations are excitingly new. For example, we have talked for years about the importance of developing understanding in arithmetic, yet in far too many classrooms the emphasis has been on rule of thumb manipulation. This is not a criticism of the classroom teacher alone, but of all of us who should be involved in the process of curriculum change. How many of us realize that mathematics is a language, a world-wide language?

As the complexity of the world has increased, the importance of mathematics has increased, not only in science and engineering, but also in the fields of social studies, economics, medicine, business management, etc. Its value as a basic language, necessary for study in a wide variety of fields or areas, should be recognized as well as its value in direct applications. Mathematics is not simply a collection of formulae and manipulations to be memorized and tried hopefully in a random fashion when seeking to solve a mathematical problem.

Teachers need to be convinced, and they, in turn, need to convince children that a well-educated person is literate mathematically. In many senses, mathematics is as much a part of our culture as language, history, literature, music or art. The practical, everyday, personal use of mathematics is growing. This is evidenced in the increasing complexity of income and other tax calculations, more common use of the metric system, etc.

The occupational use of mathematics is increasing at an almost explosive rate in many fields. The demands of the next 30 years, while highly unpredictable, undoubtedly will call for a greater familiarity with mathematics.

Teachers also need to be convinced that mathematics is an area for imagination, experimentation and exploration. Inquiry and discovery are keys to learning. Pupils learn a new idea better and enjoy it more if they have been led to discover it for themselves. The emphasis on understanding and reasoning should not be construed to mean that memorization should be eliminated from mathematics, but only that it should assume its proper role.

We need, therefore, to evaluate continuously the real worth and importance of all topics taught, methods of instruction used, and teaching materials utilized in our curricula with respect to the present and foreseeable future needs of our pupils. We must discard the less important in favor of the more important. Accurate appraisals must be made of curricula so that the proper decisions on course content can be made.

A second area of curriculum which has been receiving major attention in all the schools of America is science, which is best defined in a very broad sense, as a method of inquiry—a process of asking questions and seeking answers.

If we think of education in literal terms as implying the leading out of a person, science is basic in the whole educational process. Development of the latent powers of an individual requires encouragement and stimulation of curiosity. It also requires development of the powers to observe, to hypothesize, to organize facts, to verify and to generalize. In short, science in this sense is closely related

to many areas of learning, and should be an integrated part of the entire curriculum.

More and more essential to every informed American citizen in the next dynamic decade will be a basic understanding and a basic competency in science. Science is a basic fact in our culture. And the recognition of this should firmly establish science as one of the major disciplines in our school curriculum.

Science makes a vitally specific contribution to a student's liberal education. It develops a fundamental respect for truth. It stimulates the imagination and cultivates the habit of creative and rational thinking. It enriches life by developing an appreciation of nature and natural phenomena. It brings to the student an understanding of the nature, the processes, the possibilities and the limitations of our scientific age. Science, in brief, is an essential element of that part of the curriculum devoted to liberal education. And it must be included in the education of the deaf.

From kindergarten through grade twelve the science curriculum should make a significant contribution to the following purposes:

1. *Scientific reasoning.* Pupils should learn to observe discerningly, to analyze data searchingly, to weigh evidence and to arrive at conclusions objectively. Experiences in inductive and deductive methods of reasoning and in conceptualization should develop abilities to reason cogently. The study of science should stimulate and develop the creative powers and imaginations of pupils.

2. *Cultural appreciation.* There should be a major contribution to a fuller and richer understanding and appreciation of our environment and civilization.

3. *Civic competency.* With the rise of such issues as fluoridation, space exploration, nuclear tests, bacteriological warfare, fallout, etc., it becomes increasingly incumbent upon the electorate to follow the arguments involving scientific information and to formulate sound opinion with regard to these issues.

4. *Consumer skills.* In our industrial complex it is a decided advantage for the consumer to know more and more about the technological by-products of science.

5. *Occupational choice and preparation.* Science is an important element in the occupational life of our times. There is evidence of an increasing demand for scientists, engineers and technicians. Moreover, there is evidence of an increasing role of scientific knowledge and skills in all of our occupational life. The study of science should provide pupils with opportunities to develop and explore scientific interests and abilities.

6. *Manpower needs.* Science education is vitally related to the manpower needs of the United States in the decade ahead. These manpower needs require a broad base of citizens with scientific training and orientation. These needs also require a limited number of people with a high quality of scientific training. The science curriculum should contribute to the solution of the manpower needs of the country in terms of both its national and international welfare. How do we get teachers interested in a continuous and balanced program from kindergarten through the twelfth grade? How do we reserve clock hours in an already overcrowded time schedule to be devoted to science? How do we extend a science curriculum beyond the classroom and the formal school day? How do we find time, funds and staff for continuous in-service training opportunities in the area of science? These are questions which need answers, and I trust our discussants today will begin to accept this challenge.

In the area of social studies, some important considerations must be thought through by faculties and administrative staffs in schools for the deaf without shrugging off the need for new awareness in this area by saying perhaps, "Our children have had such little experience and we are still working on some basic language principles and their speech and lipreading in the junior and senior high school years has not fulfilled the early promise of the elementary grades." Instead, we must try to discover answers to these questions:

1. Has the social studies curriculum in your high school helped the students have enough of an open mind so that the democratic processes can be challenged and at the same time realize that it is the most acceptable form of government thus far devised?

2. How can the social studies program serve to develop responsible citizens who understand where self-interest ends and common good begins?

3. Does the social studies curriculum prepare students to speak accurately about their own government?

4. Does the curriculum give the students a knowledge and an appreciation of the socio-economic conditions of other countries and of other sections of their own country?

5. Are the students given an awareness of the need for individual participation in the affairs of community and state, and the importance of taking a stand on issues involving matters of social justice?

6. Does the social studies curriculum place sufficient emphasis on the dignity and importance of all work both for achieving personal competence and satisfaction, and for the smooth running of an interdependent society?

7. Does the social studies curriculum help students understand that any loophole in morality is not a small issue?

Not all of these topics can be developed through existing textbooks, and this is where new teachers are distressed at suggestions for

curriculum change. Actually, a new curriculum guide generally turns out to be merely dry bones until the teacher breathes on it and gives it life.

There are many places in which curriculum change is conceived. It may be in the mind of an administrator who issues a clear directive to teachers; it may be conceived in the mind of an author who puts the change in a textbook; it may be conceived by a committee that writes a course of study or curriculum guide, and passes it along to all teachers; it may be defined in a state conference and widely publicized with summaries and recommendations distributed over the state. But curriculum change does not necessarily follow in any of these situations or because of these well-intentioned activities.

Curriculum change does not take place in a bulletin, in a course of study, in a committee or in a conference. Change takes place only in the classroom where there are children and a teacher, where teaching and learning are going on. The classroom is the only place it can occur. This may sound a little trite, but it is a basic understanding for anyone who hopes to produce change in the curriculum.

Since curriculum change can occur *only* in the classroom it takes place *only* when the teacher changes his teaching to include new objectives, new content, new emphasis, new procedures, new materials, new ways of working with children. The key to *curriculum change* is *teacher change*. The problem, then, is "How do teachers change?" How do administrators or supervisors help bring about change in teaching?

When anyone sets out to alter people, he finds himself in the middle of a problem of human relationships, because change and the means of change are intimately related to feelings and emotions. Most of us are willing to change when we recognize the need for change, but few of us are willing *to be changed*. Seldom does real, permanent change occur under the conditions of a changer and a changee. Just as we do our own growing, we do our own changing.

External force, applied by well-intentioned and benevolent administrators, generally does not bring about change. The administrator may say, "Beginning this year, we will concentrate on the problem of changing our social studies curriculum. We need to make some necessary changes." Most teachers with a strong sense of idealism and professional obligation feel the pressure to comply. But unless they feel that this is a real problem, that the need is really there; unless they know why this is a problem and what the dimensions of the problem really are, there will be little enthusiasm for it and few lasting results. In view of the psychology of change, then, what is the role of the administrator in bringing about change? In general, we can say that it appears to be one of not attempting to change teachers, but of helping them create constructive tensions that lead to changed behavior and direct these changes in curriculum and in teaching.

There have always been two theories of administrative leadership; one based on command and observation, the other on example and participation. The success of many ventures is characterized by the latter, by the kind of leadership that gets things done by doing them along with others.

Somehow the progress toward maturity in professional performance seems to have led many to an increasing concern with philosophic abstractions at the expense of the concrete demands of reality. More time is sometimes spent conjuring over the philosophic implications of an often repeated and already belabored platitude rather than increasing the scope and effectiveness of the operating program.

It is interesting to note that in many branches of our Armed Services officers do more than lecture about tactical problems. In training maneuvers they lead their men and show leadership by example, not merely encouragement.

As he works along with the staff, the administrator has three basic functions in the development of instructional materials: motivation, guidance and coordination.

The administrator, especially one newly assigned, or one who is investigating new ideas of learning, must move slowly. Changes to be brought about by the introduction of new ideas in curriculum must be carried on in relation to all the forces being exerted on the individual teacher or the departmental group. Some teachers feel that change contrary to tradition is bad; others fear that change will cause them to lose control; others find it impossible to change; others look with contempt on those who are willing and anxious to try new things. All these teachers conspire against change and bring both actual and implied pressures of various sorts on individual teachers. The administrator must do all in his power to gain acceptance of his leadership. This is best done by first developing introductory ideas in those areas in which there is little controversy. If these preliminary relationships prove successful, confidence is more easily established for the more controversial areas. Because new materials of instruction sometimes connote the questioning of formerly used techniques and materials, the wise administrator confines himself to small segments of the curriculum at first in order to avoid overwhelming opposition.

In launching workshops designed for the cooperative building of instructional materials, the administrator is faced with certain quali-

ties of human nature in the group, and must also be aware of certain weaknesses in the committee process as it is used in many school systems. It is important that committees not drag out their work, continuing from year to year in a half-hearted manner, with only an occasional meeting. This produces little of value. In addition, the administrator must learn how to integrate those members of the staff who contribute too little, those who offer too much, those who are very slow to learn, those who seem to antagonize and those who wander.

Committees per se are not substitutes for leadership talent. A committee operating without planning, executing, appraising, and rebuilding grows into a state of confusion in its ultimate decisions, often difficult to modify. For the most part, in-service teacher workshop groups or working committees should be real workshops and real working committees and provide a situation in which teachers get together to prepare the materials needed for classroom activities. This means that teachers must be given plenty of opportunity to work on their own, free from interference or influence from their consultants and administrators. On the other hand, a working committee would be to no purpose if there was no advantage taken of the stimulation that the administrator could give to the group or if his resource potential were ignored. Administrators, therefore, have the responsibility of adjusting the activities of committees so that all members may call upon them for assistance. The beginning of most effort of these committees is usually marked by a period of some frustration. It should be pointed out that these frustrations are a healthy sign and the administrator must not be tempted to do all the work in order to get things started. But because teachers are not all alike in either their ability or desire to contribute significantly, administrators must often show more initiative in the early part of the project.

Some teachers on working committees are afraid to speak up, even in informal working groups. This may stem from previous squelching of their ideas. Such persons can be helped to contribute again if their suggestions are not forcefully negated as they are being given. For those teachers who seem to contribute too much, a different approach is needed. The administrator must display great tact in helping the talkative member of the group to share the time with others. And the administrator, too, can set a good example by not monopolizing the discussion himself.

For those teachers who seem slow to learn about the value of new instructional materials, little can be done. Many of these teachers always see themselves in the role of followers. No amount of skillful motivation will change them. And in every working committee there are individuals who seek personal prestige rather than an opportunity to contribute for the total benefit of the group. These people seem to work toward personal antagonisms. The responsibility of the administrator in these situations it to try to give these teachers more definite responsibilities and to team them up with teachers who seem to be able to work along with them.

In planning for working committees, administrators need to make a decision as to whether an attempt will be made to work with all teachers concerned with the problem or just with those with whom a successful project can be predicted. Although all teachers are not equally gifted in the construction of new learning materials, it is important that all the teachers involved should be invited to make a study of the problem with real unity and then to go on to build instructional materials together.

Second only to personal characteristics of participating committee members in the list of problems connected with successful workshops is the lack of time allotted for the building of instructional materials. Although many authorities believe that work of this nature is important enough to be considered part of a teacher's regular day, committee assignments most frequently are added on at the close of the school day. Such meetings often run late in the afternoon or are held in the evening. In these circumstances teachers find it difficult to bring a freshness of professional interest they might at other times. However, the extent of participation, the professional interest with which the staff often undertakes the work and the quality of the results are all the more remarkable when considered in the light of the fact that most of the contributions were made on the teachers' own time.

In some school systems attempts to alleviate this difficulty are made by the provision of substitute teachers who relieve teachers of classroom responsibility. Some cities provide for summer employment at regular teacher salary for committees working on instructional materials; others dismiss classes 45 minutes early on meeting days. Approval for many of the above plans has been gained in only a few school systems, since many recognize the value of the suggestions, but few put them into actual practice. It seems inconsistent to expect instructors to teach effectively every hour of the school day and then to plan and produce effectively after a six- to seven-hour working schedule.

As indicated above, groups of teachers meeting in committees to build new curricula and instructional materials need to have a real purpose identified for them. Once this has been done, the workshop is ready to be launched. While it is probably wise for teach-

ers actually to develop the scope of the workshop and the specific criteria for evaluating the materials, administrators have definite responsibilities for assisting with the work. To avoid weak or confused beginnings, administrators should come to the opening meeting with a working plan. It is up to the administrator, too, to provide some motivating force to bridge the opening remarks with the actual working effort.

I, therefore, invite everyone of you, first as an individual, and then in concert with others in your own school or organizations to reexamine the ways by which you may further vitalize the curriculum, not only with respect to the points of emphasis I have indicated today, but to all aspects of your teaching.

Curriculum Change: the Teacher's Viewpoint

FRANCES I. PHILLIPS

Miss Phillips is principal of Kendall School in Washington, D. C.

Numerous questions have been raised by Dr. Goldberg to which, I know, every teacher of the deaf would like to have straightforward and definite answers. Most of them are not available, for they must grow out of thousands of hours of conscientious work by researchers and the classroom teachers of our children.

We must find ways to meet the needs of the child as he develops, and as his abilities evolve before our eyes. Structuring the teacher's daily program requires a well-organized base from which to operate. The curriculum of the school should provide this. It must be a good curriculum, tailored to fit the boys and girls for whom it is written. In my perusal of the curricula of many of the schools for the deaf in this country, I have endeavored to discover from whose point of view they were written. The participation of the teacher in curriculum building is evident in nearly every case.

In order to attain the fluid, flexible and evolving program that changes with the needs of the children the teacher must be actively and directly involved in each part of the plan. Respect for the teacher's down to earth experience is a critical factor in the human relationships which sometimes break down when curriculum change is indicated. If the teacher is called in, not only as a consultant, but as an active participant in curriculum planning, and if time and funds are provided to furnish the opportunity for the type of reflective and analytical thinking required in order to produce a satisfactory and functional curriculum, the interest of the teacher will be sustained. This holds true even if he must use many out of school hours for it. Teachers of the deaf may have firm convictions regarding particular methods of instruction, but they are united in one thing; they are not only ready, willing and able, but *anxious* to give the deaf child the very best education that he can absorb. They are not resistive to change unless that change appears to them to be detrimental to the education of the child.

Acceptance of curriculum change should begin before the prospective teacher enters the classroom, at the teacher-training level. The change should be initiated by those who are most vitally and directly concerned with the educational process. Discussion in the teachers' lounge and over the coffee cups produces many valuable ideas. The problem is to capture them. Here are born the genuinely creative bases upon which curriculum improvement may be built. Some excellent ideas for researchable problems are frequently discussed. Teachers should be encouraged to present them to the proper authorities, not to permit them to be dropped because no one is available to carry on the needed investigation. We should build curriculum changes on the results of objective evidence, produced by research which attempts to shed light on our problems. Presentation of this evidence in a form in which the classroom teacher can assimilate and apply it to his daily task is one of the important responsibilities of the administration. Practical application is sometimes obscure until such interpretation takes place. The teacher must be prepared for this deliberately and carefully in order that, when the time comes for building advanced techniques and more modern material into the curriculum, he will be not only amenable to the change, but prepared to put it into effect. He will work on it whole-heartedly, because he understands it and believes in its value. He knows that it will strengthen and improve the preparation of the deaf child for his future life in modern society. He realizes that, although his task as a classroom teacher may change, and that the comfortable status quo which he may have been maintaining for the past several years will be shaken, a more challenging way of teaching is within his reach, enabling him to do a better job for his students. The administrator's task and responsibility will then be, not to find ways of circumventing resistance, but of providing opportunity for full-scale participation, of structuring problems of action research on the classroom level, and of watching it grow in meaningful, dynamic ways. Thus we will build better curricula for our schools for deaf children.

Administering Curriculum Changes: the Supervisor's Viewpoint

HARRIET McLAUGHLIN

Miss McLaughlin was formerly principal of P. S. No. 47 in New York City.

On most auto trips, one feels the need of a good map. Even though the same ground has been covered before, there is a satisfying feeling resulting from the study of the map to see if there are new ways to reach our destination. I like to think of the curriculum bulletin as a similar guide to help us traverse the road ahead. Usually the material is appropriate to the needs of the age group for which it was written—it is timely, suited to the locale and well-organized. In our changing world, there is little that remains static, and the school curricula must be dynamic to be worthwhile. Teachers and administrators in schools for the deaf realize that change is inevitable. "Curriculum change does not come easily," says Mr. Goldberg, and I am sure we all agree.

In schools for the deaf we have need for two sets of curriculum bulletins, one to deal with general subjects such as mathematics, science, social studies, foreign language, etc., and the other to cover the special subjects. In our school these are speech, language, lipreading, early childhood or readiness, the infant program and auditory training.

In my opinion, we have neither the time nor the resources to develop the general subject curricula and we should accept those put out by the locality in which the school is situated.

When a new bulletin is issued by the City of New York, sufficient copies are sent for all teachers. The teachers are asked to read the new issue and the supervisor appoints a committee of teachers to study the bulletin and to present it at a regular teachers' conference. The underlying philosophy is discussed and the likenesses and differences between the old schedule and the new are pointed out. Then follow the committee suggestions for possible adaptations that will be needed to use this bulletin with deaf children.

Ours is a large school, averaging four or five classes on each level. The program is so arranged that all classes on one level go to shop the same period once a week. This scheme frees all the teachers on the same grade level at the same time to plan their work for the following week. In this planning period further adaptations in the curriculum may be made to suit the various ability groups. At this time also, the more experienced teachers have the opportunity of guiding and assisting newcomers, both in making necessary adaptations and in writing their plan books. The supervisors frequently sit in on the various grade conferences.

Much of the social studies learnings are acquired through trips, and all the classes in the grade go together so it is necessary for even the slowest groups to be acquainted with the project to be studied. Each teacher decides how much preparation is needed for his group and the type of follow-up that is possible for them. Frequently the slower groups are invited to sit in with the brighter groups when they are presenting their follow-up program.

In the science bulletin many experiments are outlined to demonstrate the phenomena of air, water, electricity, etc., and the teacher, with the guidance of the supervisor, may select and plan for those projects best suited to the mental ability of the group.

Developmental mathematics for the elementary grades, business arithmetic, general mathematics, algebra and geometry are well outlined in the mathematics bulletins for the teachers' guidance. Bright children who may succeed in ordinary schools are given the opportunity and they are assisted by traveling teachers of the deaf. Their chances of success in this situation are enhanced by the fact that the school for the deaf is using the same curricula as the other schools.

As far as I know the curricula for the special subjects have been developed by each school to fit its own needs. During the past four years, committees of teachers have worked diligently to revise our course of study in the light of present day philosophy. Three bulletins have been completed, lipreading, auditory training and speech. The readiness bulletin is now at the printers.

While the supervision assignments are those found in most schools, one supervisor for the lower school, one for the middle school, and one for the upper school, better articulation in the special subjects is likely to result from vertical assignments here. In this way the supervisor has a picture of the progress of the children through the grades. It enables him to judge the proper placement of material, as well as teacher strengths and weaknesses. Occasionally, where he sees something especially good, the supervisor arranges for a teacher to give a lesson in the auditorium. These demonstration lessons are a very helpful way to introduce a new curriculum.

Curriculum changes are everybody's job. When major changes are made, the supervisor devises some means of alerting parents, either through parent conferences or the school newspaper. As in all phases of our work, we need sympathetic understanding and close cooperation of parent, teacher, principal and administrator to attain success.

Membership Meeting

The annual meeting of the membership of the Alexander Graham Bell Association for the Deaf was held in the Manger Hotel, Rochester, New York, on June 30, 1960. The meeting was called to order at 11:05 by Dr. George T. Pratt, president, who welcomed the members.

The president then asked Master Robert Balfour to come to the platform. He was presented as the newest life member of the Association.

Dr. Pratt extended formal thanks to Mr. James Galloway, Chairman of Arrangements for the 1960 Summer Meeting and to Dr. Leo E. Connor, Chairman of the Program Committee.

The president then introduced Mr. Robert H. Cole, president of the Parents' Section. Mr. Cole gave a brief report of the activities of the Parents' Section which now includes 42 affiliated groups, one of which is in Canada.

In the absence of Miss Alice Streng, chairman of the Legislative Committee, Dr. Pratt summarized briefly the history of Senate Joint Resolution 127 and House Joint Resolution 494, identical bills for the provision of funds to help train teachers of deaf children.

Captain Donovan, chairman of the Finance Committee, read the Association financial report which was accepted as read.*

Dr. Pratt reported that the invitation to hold the 1962 Summer Meeting in Detroit had been accepted by the Board of Directors. He introduced Mrs. Harriet Green Kopp, who had been appointed general chairman, and Dr. Mary Rose Costello, appointed chairman of program arrangements. A warm welcome to Detroit was extended by Mrs. Kopp and Dr. Costello.

It was announced that there would be two Association Regional Meetings in 1961. The first one is tentatively set for February 24 and 25 in Los Angeles with Mrs. Spencer Tracy as chairman and Dr. Edgar Lowell in charge of program arrangements. The second meeting is tentatively scheduled for October 27 and 28 in Fort Lauderdale, Florida, with Miss Mary K. VanWyk as chairman.

Dr. Pratt called on Dr. Silverman to lead the discussion on the proposal that the Alexander Graham Bell Association for the Deaf join with the Conference of Executives of American Schools for the Deaf and the Instructors of the Deaf in the formation of a Council on Education of the Deaf. Copies of the proposed Constitution and By-Laws of the Council had been previously distributed to everyone at the meeting.* Dr. Silverman reported that the Board of Directors of the Association had gone on record as being in favor of the formation of the Council, and recommended that the membership of the Association approve the Association's entrance in the Council and ratify the Council's proposed Constitution and By-Laws. It was moved and seconded that the Alexander Graham Bell Association for the Deaf join the Council on the Education of the Deaf and ratify the Council's proposed Constitution and By-Laws. Discussion from the floor followed. It was reported that at the Board meeting one of the directors, Mrs. Lilian Grosvenor Jones, had voiced her opposition to the Association's joining the Council and had stated her reasons for taking this stand. The question was called for and the motion passed without opposition.

Dr. Pratt reported that with the establishment of Regional Meetings, the matter of electing Board members in odd-numbered years presents new problems. Therefore the following change in the Association's Constitution was moved and passed unanimously. The revised Section I of Article V reads:

"The affairs, funds and property of the Association shall be administered by a Board of Directors, composed of eighteen (18) members of the Association. The term of office of the Directors shall be four (4) years, but one-half of their whole number shall be elected at each biennial meeting, to begin with the 1960 meeting. Directors shall be elected by ballot, under the supervision of inspectors to be appointed by the President. Nominations for the office of Director shall be made in writing, signed by at least five (5) members, and placed in the hands of the President and Executive Secretary at least one month prior to each biennial meeting. The Directors shall have power to fill any vacancy in their number caused by death, resignation or failure of the Association to elect a successor."

In order to have the terms of the present members of the Board conform to the Constitution as now amended, it was moved and passed that the first three names appearing on our alphabetical list of Board Members serving the period 1958-1961 should be included with the group serving from 1959-1962 and the other three names should be included with the group to be elected today to serve from 1960-1964.

Dr. Pratt then called for the election of six (6) directors for the term 1960-1964. He reported that the following eight persons had been nominated in accordance with the provisions of the Constitution: Mr. Robert Cole, Mrs. Sophie French, Dr. Wm. G. Hardy, Mrs. Lilian Grosvenor Jones, Dr. Helen Lane, Miss Mary Numbers, Dr. S. Richard Silverman, and Mrs. Spencer Tracy. While the ballots were being counted the meeting continued.

Mrs. Thomas Crowe of Northampton, Mass., moved that a statement be sent to Congress-

*Copies are available upon request from Association Headquarters.

man Elliott stating that members of the Association wished to express their interest in House Joint Resolution 494 and their concern that no action had yet been taken; and also that a resolution of thanks be forwarded to Senator Lister Hill. The motion was seconded by Mr. Cole and unanimously passed. The president appointed the following committee to draft the statements: Mr. Cole, chairman, Dr. S. Richard Silverman, and Mrs. Thomas Crowe.

Dr. Pratt announced that 1967 would mark the 100th anniversary of the founding of the first oral schools for the deaf in the United States. Clarke School for the Deaf and Lexington School for the Deaf were both founded in 1867 and were followed shortly thereafter by the Horace Mann School, the first free public oral school for the deaf. In order to appropriately celebrate this auspicious occasion the Board of Directors of the Alexander Graham Bell Association for the Deaf had voted to join with these three schools in sponsoring an International Meeting of Educators of the Deaf to be held during the first week of October 1967. Definite plans will be announced later.

The tellers reported that the following persons had been elected to the Board of Directors of the Association: Mr. Robert Cole, Mrs. Lilian Grosvenor Jones, Dr. Helen Lane, Miss Mary Numbers, Dr. S. Richard Silverman and Mrs. Spencer Tracy.

Dr. June Miller
Secretary

Curriculum II Thursday P.M.

What Is a Realistic Curriculum?

Chairman: Priscilla Pittenger
Panel of Discussants: Dr. Kenneth Mangan, Ione Cochran and Ann M. Mulholland

Public School Curriculum

KENNETH MANGAN

WHAT IS A REALISTIC CURRICULUM FOR DEAF CHILDREN IN REGULAR CLASSES?

Dr. Mangan is a member of the faculty of the University of Illinois.

Deaf children vary from each other at least as much as hearing children differ from one another. This implies that no one standardized plan of education will meet the needs of all deaf children. Fortunately, we have had a variety of provisions for teaching deaf children in this country. One type of school program involves the participation of deaf children in classes for hearing children for part of the day. This arrangement is planned to take advantage of both the special classes in which speech, language and lipreading are taught in a carefully planned sequence by specially trained teachers, and the natural verbal environment of the regular class which is so important for stimulating language learning. The language experiences which a class will have depend to some extent upon the pupils in the class. Many deaf children will be challenged to learn from the more efficient, capable children in the regular class. A stimulating environment to provide patterns for language usage for part of the day, and the security of the special class group where success is assured seems to be the ideal arrangement for many deaf children. This is not to say that all deaf children will flourish under this pattern.[1] The individual problems of some deaf pupils will necessitate other arrangements.

There is a danger in too much or too early emphasis on participation in classes for hearing children. In the rush toward "normalization" the teaching of basic educational skills may be slighted. Extreme care and constant re-evaluation should be exercised in any program integrating handicapped children into regular classes.

It may be helpful to distinguish between social integration and academic integration. Deaf children may participate socially in many of the recreational activities of the school almost from the day they are enrolled. Playground activities, school parties and entertainments, duties and many other aspects of the school program can include deaf as well as hearing children. Children learn to communicate with each other in many ways, even though some of the speech is not understood. The incidental integration of deaf children in the school social group can have a positive effect on the ability of the deaf to relate to hearing people later in life.

Academic integration is more dependent upon the language background of the pupils. In almost all cases the deaf child is incapable of real participation in a regular class subject until he has spent several years in a special class for the deaf. In my opinion most deaf children are not ready for integration until the third or fourth grade.

In a program in which part-time enrollment

in a regular class is planned, the school experiences of deaf children are determined by the regular school curriculum. One of the aims of the special educational program is to prepare the deaf children for the time when they will participate in the regular classes. Some schools have tried to follow the primary course of study developed for hearing children in the hope that this would make it possible for the deaf children to move into the regular class group at the third- or fourth-grade level. Although many of these first- and second-grade activities are meaningful, the vocabulary and language structure do not meet the communication needs of deaf children. Thus we are faced with the task of adapting and developing materials which will give our pupils the language experiences necessary for success in a regular class later on.

Experience charts based on interesting pupil activities are the first stage in a meaningful language and reading program. This is followed by the use of rewritten primers and primary readers in which the vocabulary and sentence patterns are controlled. With the fourth grade textbooks of the regular elementary curriculum as a goal, other primary books are rewritten with more difficult words and structures being introduced in a carefully planned sequence. In this manner all of the reading skills necessary for successful participation in a regular class subject, whether it be arithmetic, social studies or science, are taught to the deaf child before he is enrolled in the room for hearing children. Obviously, at the same time, the child is taught oral communication skills which will help him operate effectively in the regular class.

This program of adapting material and preparing the learner continues as long as the child is in school and requires specific planning on the part of the special teachers. The city of Champaign, Illinois, is fortunate in having an excellent curriculum guide prepared by Mrs. Leonora Quill which correlates the work of the special class with the regular school program. This publication[2] serves as a reference for planning learning experiences which will make it possible for deaf children to be successful in the regular school program.

The research carried on by the New York City Board of Education indicates that deaf children can be integrated satisfactorily into a regular school program.[3] The process seems to work better when only two deaf pupils are enrolled in a regular class than when as many as ten pupils are placed in the same regular class. Further studies should be conducted regarding the effect of integration at different grade levels. The effect of a curriculum beginning in the first grade specifically planned for this purpose should also be measured. Another study should compare pupil progress in an integrated program with achievement in the traditional school for the deaf.

Deaf children meet many problems in the regular school program, but with the help of their teachers, these problems can be solved and the deaf children can become more capable as a result of these experiences with hearing children. Working with other teachers in the school is a challenge to the teacher of the deaf as well. In the process of expediting the instructional program for her pupils, the special teacher is kept abreast of the new curricular developments in general education. Some of these innovations are directly applicable to the teaching of deaf children. For example, in our community the discovery method of teaching arithmetic being developed by the University of Illinois Arithmetic Project and the use of teaching machines offer possibilities for improving the teaching of deaf children.

SUMMARY

1. Many deaf children can be stimulated to superior achievement in a program which combines the challenging atmosphere of a regular class with the special teaching procedures of a class for the deaf.

2. The course of study which prepares children for academic integration includes careful teaching, using adapted materials which present language structures in a more logical and efficient sequence than do ordinary materials.

3. The curricular materials prepared for hearing children offer a source of ideas for improving the offerings for deaf children.

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1. Brereton, Beatrice, *The Schooling of Children With Impaired Hearing*, Commonwealth Office of Education, Sydney, Australia, 1957, pp. 234-237.
2. Quill, Leonora, *Areas of Instruction for Teachers of Children Who Are Deaf*, Champaign Community Schools, 1959.
3. Justman, Joseph & Moskowitz, Sue "The Integration of Deaf Children in a Hearing Class: The Second Year." New York City Board of Education, 1957.

Developing a Curriculum for a County Program

IONE COCHRAN

Miss Cochran is curriculum coordinator for classes of the deaf in Tulare County, Calif.

What we are all looking for—administrators, supervisors and teachers—is a realistic curriculum for deaf children. And we know that it isn't going to appear just for the asking. We must build it. We must plan for it in the light of the results of educational research.

I wish that I could inspire each of you to go home and read some of the books on

growth, development, psychology of learning and techniques of teaching reading, writing and arithmetic. And then, in the light of what you have read, to write an outline for your teaching next year.

You might start, as we did in Tulare County, by listing your most valuable teaching materials, and then compare them with the teaching materials of other teachers, and evaluate them.

If you read what Ruth Strickland says in *English is Our Language, Grades I and II*, about the development of communicative skills in hearing children, you will have a new approach. She refers to speaking and writing as outgoing skills of communication, and listening and reading as the intaking skills. Deaf children can participate easily in half of the communicative skills, writing and reading, but will have difficulty in the other half, speaking and listening. Therefore, in your teaching outline, you will emphasize the areas in which your deaf pupils will have the most difficulty.

If you read Arnold Gesell's *Studies in Child Development*, you will have a much better idea of the capabilities of your children at each grade level. I sometimes feel that deaf children are exposed to many of the learning processes much too soon because we, as teachers, are so aware of their lack of knowledge, and are so eager to pound this in as soon as communication opens up. But, if you get a perspective of what you are teaching by writing it down, you will be aware of this tendency, and mend your ways.

After you have read these and other authorities, such as David H. Russell, William D. Sheldon, Paul McKee, Constance McCullough, Edith Merritt and Margaret LaGrill, you will get the feel of current trends in teaching.

You may say, though, that these men and women have written for teachers of hearing children. Please don't set yourselves apart. You are teachers of children. Teachers who have a special quality of understanding, of creativity, of enthusiasm and of expectation for each child should be able to take the results of educational research and adapt them to the teaching of the deaf. If each of you would initiate a curriculum study in your school system, I am sure that we would, in a year or two, come up with something most beneficial for the thousands of deaf children in our country. And it is high time we did this!

A realistic curriculum for deaf children—that was the thing we were looking for in the spring of 1956 in Tulare County. At that time our program for educating deaf children in the public schools was seven years old. We had started from scratch with one teacher and one child, and our program had grown to five teachers and about 40 children. We had looked the country over for guides and courses of study that would help us with an organized sequence of learning experiences for our deaf children.

We found little to help us since we had a philosophy for teaching deaf children that no one had dared to put on paper four years ago.

1. We believed that the oral development of speech in a deaf child follows the pattern of speech development in the hearing child. Therefore, the deaf child must be given opportunity for varied and meaningful experiences which are conducive to language and speech development.

2. We believed that the curriculum for the education of the deaf can and should be based on the regular school curriculum.

Therefore, we must decide what the basic facts of our regular school curriculum are and teach these to our deaf children, because we know deaf children cannot learn all that the hearing child learns or at least as fast as he learns it.

3. We believed that we must train every bit of residual hearing that the deaf child possesses. Therefore, auditory training must be a part of the curriculum for the deaf child.

4. And we believed that a curriculum for deaf children must be so flexible that each child and each teacher can operate easily and naturally within its framework.

So, with these beliefs in our minds six teachers and I set forth on a semester's study and work to develop a curriculum that would provide guide lines for our teaching. This I wish to stress. This is not an all inclusive course of study, these are *guide lines* by which a teacher plans her work for each of her pupils. It was interesting to see how this guide developed over the 18 weeks of our semester's work. As we started to work I'm sure each of us thought of the result as a list of projects, facts or perhaps texts from which we would teach at each grade level. But as we began to write down our beliefs about teaching deaf children we soon saw that we did not want to harness ourselves with demands that would not meet the needs of our children nor give the teacher opportunity to be flexible and creative in her presentation.

After the teachers had finished their study and writing, I compiled the material. It was mimeographed in the office of the County Superintendent of Schools, in loose-leaf form as *The Tentative Draft of a Course of Study for the Deaf*. We used it in our classes for a year, then we submitted it to a state-wide curriculum workshop sponsored by the California State Department of Education under the guidance of Mr. Charles Watson; and San Francisco State College under the guidance of Dr. Priscilla Pittenger.

After this revision we changed its name to *Experimental Course of Study for the Ele-*

mentary Deaf Child in Tulare County Schools. It was still in loose-leaf form. We used it for another year, and at the close of the 1958-59 school year the teachers of the deaf in Tulare County met with me to determine the next step in the development of the guide. By unanimous vote it was decided that, with minor changes, the guide should be published in final form in the summer of 1959. This publication to be titled *Tulare County Teacher's Guide for the Educational Needs of Exceptional Children—The Deaf.* That is its history, now back to what is in it.

As we set about to write our guide we decided first to divide it into four levels: Preprimary, Primary, Intermediate and Upper Grades. We decided that there were four areas in which we wished to help children grow at each grade level: physical, social, emotional and intellectual. These areas then set the pattern for our guide.

As we began to discuss the subject areas at the preprimary level we decided that the intellectual development of the preprimary deaf child is centered around communication. As we looked into this matter of communication it became apparent to us that development of the senses precedes all training in communication. We are working with children who have lost one of their senses; therefore we must overdevelop, as it were, the other senses. So we placed sense development as the first subject area for the preprimary child.

Second on our subject matter list we placed lipreading. Just to remind us how important lipreading is to the preprimary deaf child we took the liberty of copying a paragraph from the *Los Angeles City Guide To Education of the Deaf:* "Lip reading is important in helping a deaf child take part in his family life and in the life of the community. It is through lip reading that the young child begins to gain an understanding of the purpose of speech and language. The developmental activities of the nursery school program provide an excellent opportunity to talk to the child in natural situations."

Third on our subject matter list we placed auditory training. Since one of our beliefs is that we must educate the residual hearing of every deaf child, we stress this aspect of our teaching. In fact auditory training along with lipreading is a part of every teaching situation for our deaf children.

Then fourth on our list we placed language development; not that it rates fourth in importance, because language development is paramount to all else in teaching deaf children, but fourth in sequence. The three previous intellectual subjects, for the preprimary deaf child — sense training, lipreading and auditory training — are tools for developing language understanding.

The last division in growing intellectually for the preprimary child is speech development. Our ultimate goal for the deaf child is good speech in idiomatic phrases. Since one of our beliefs is that speech develops for the deaf child by the same pattern as for a hearing child, we have listed the steps of speech development of the hearing child and right beside it the steps for the deaf child. The hearing child learns speech automatically (or so it seems) in 11 steps. The deaf child comes to school, say at the age of three, having covered four steps. 1. the birth cry, 2. cries that express needs and desires, 3. laughter, 4. babbling vowel sounds (perhaps). The other seven steps we must teach.

At the top of the column for speech development we say: "All Speech should be fun and should have meaning for the child and should be functional." The word functional as used in our guide means, "ready for immediate use by the child."

So our guide outlines for us the physical, social, emotional and intellectual growth of the preprimary deaf child. At each of the other levels, primary, intermediate and upper grades, we have outlined the same areas, but have expanded the intellectual level to include all the speech development divisions plus the school subjects.

At the upper grade level we have not been so detailed and inclusive in suggestions because we feel by this time deaf children will be able to follow the regular school curriculum for the most part.

Concept Formation and the Curriculum

ANN M. MULHOLLAND

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In the development of curriculum our concern is with the ultimate level of attainment of the pupils for whom it is intended. The degree of academic achievement is considered to be adequate and appropriate when the graduate is judged to be an independently reasoning individual capable of reaching and making mature decisions for himself and for others for whom he assumes responsibility, not only directly in an intra-familial sense, but extending out into the groups with which he identifies. In addition to the establishment of such a criterion, the dissemination of information is the stuff of which the curriculum is made. The primary focus is on developing and enlarging the individual's comprehension of self and the world, enabling him to understand beyond his personal experience and observation both events and people distant in

time and space. Clarification of the laws of nature, of the physical world, and the understanding of the behavior of individuals near and far is inherent in this concept. What provisions should be made in the curriculum to achieve these ends?

The acquisition of such knowledge by the student is dependent upon several factors: the mental capacity of the individual, his linguistic competency, his social and emotional maturity and his teacher's skill in providing for the growth in and development of understanding within the framework of experience, real or vicarious, which clarifies, enriches or enhances such information.

If in our realistic approach to learning we consider solely the acquisition of factual information framed in simple, concrete language, we are restricting the eventual attainment of the goal cited above. Let us examine briefly the processes which provide for the perception, integration and interpretation of the sensory data which impinges upon the individual and which enables him to conceptualize at varying levels of complexity and abstractness.

Learning begins with sensation, which, in terms of the hierarchies of experience, a concept developed by Myklebust,[8] occurs at the initial level and proceeds through perception to imagery, symbolization and conceptualization. *Sensation* may be defined as the stimulation of the sense organs through which process the individual maintains contact with his environment. It is the awareness of the presence of some stimulus.

Perception, the second stage of experience, is the process by which the individual identifies objects in his environment and notes relationships. Inherent, however, is the organization of the sensory processes and the integration, cortically, obviating the simple definition of perception as being solely sensation plus experience. The implication is that through perception the individual copes effectively with his environment.

Imagery is centrally aroused experience, which is the result of the individual's thinking, rather than the result of sensory stimuli which are present, and is "the object of the mind's possession," as Langer[7] has described it. Imagery, then, is the level at which "images of things (or) symbols are conceived, remembered, considered, but not encountered."[7] Thus, images are the "readiest instruments for abstracting concepts and the spontaneous embodiment of general ideas."[7]

Symbols are used, not as a proxy for objects, but are, rather, "the vehicles for the conception of objects," and as such, have distinct functions.[7] Symbols thus provide the means for the individual to think of the objects which are not present temporally or spatially.

A *concept* is essentially a "principle of classification . . . by which objects are grouped according to a certain likeness. While concepts are basic to judgment and reasoning, they in turn are dependent upon abstraction for their information."[9]

Rapaport[13] has indicated the dual characteristics of a concept as consisting of both the *realm* and the *content*. "The *realm* of the concept 'table' is all the tables which exist or can be thought of irrespective of their material, shape, color, number of legs, or use. The *content* of the concept 'table,' which may be referred to as 'tableness,' is the elusive common characteristic of all tables . . . (which) exists nowhere, but still is inherent to all tables. The symbol 'table' represents the implied *content* characteristics." To elaborate further on the concept of table, as Rapaport suggests, may prove useful. The composite which stands for "a place to eat at," "what you put a lamp on," etc., must not be considered always as one particular table or even tables in general, but rather the individual is expected to think of tables and select the more narrowly defined concepts which are specifically applicable as well as the all-inclusive concept. In other words, the individual is expected to be somewhat flexible in using specific symbols representing conceptions of specific objects.

So it is that the child perceives, structures and comprehends his world; so it is that he functions mentally. How, then, does deafness affect these mental processes?

Do the deaf function at an abstract conceptual level or is there a retardation in their ability to abstract? Or should the question be phrased so as to qualify this somewhat broad aspect of mental functioning? As the tools of measurement have become increasingly more refined, study of the cognitive processes of the deaf has been facilitated. To develop concepts, the individual must be capable of abstracting from the stimulus one particular feature to the exclusion of others; generalization is based on the abstraction of relevant items.[14] While there are discrepancies amongst the findings of a few investigators attributable to the test instruments or to the nature of the tasks themselves, there is sufficient agreement to suggest qualitative differences in the deaf in the cognitive process referred to as abstraction. Both verbal and nonverbal abstract behavior have been studied in this country and abroad.

The Heiders[4] in their study comparing the color-sorting behavior of deaf children with the normally hearing concluded that the deaf children performed at the level of younger hearing children. Utilizing a similar measure of sorting behavior in which the deaf child was required to sort a number of objects differing in form and substance, MacAndrew

concluded that the deaf were unable to shift to a different sorting category, principally because of the rigidity of their mental structure. Both the deaf and the hard of hearing subjects in Costello's study showed retardation in abstract reasoning as measured by the Progressive Matrices, a nonverbal test, suggesting that "deprivation of auditory experience sufficient to delay or prevent normal language acquisition has a seriously retarding effect upon the ability to solve reasoning problems involving even nonverbal materials."[1] Costello's sample of hard of hearing children performed at the same level on this test of abstract reasoning by analogy as did the deaf at the 25th percentile.

Oléron,[9, 10] who has made significant contributions to our understanding of the mental functioning of the deaf child and who continues to explore the processes of cognition in relation to language, found the deaf to be seriously retarded in nonverbal abstract functioning with 80% of his group falling at or below the 50th percentile.

Using a sorting test, Oléron studied further the abstract behavior of the deaf, and concluded that when assistance was offered, a shift to a different classification principle was made. He considered the retardation in abstract behavior to be the result of the language retardation and posited that the ability to understand and to use abstract terms should result in the development of conceptual thinking. The verbalizations of this group in attempting explanations of their sorting behavior was at the concrete-descriptive level. Hull and other investigators have found that laboratory subjects can often discriminate one class of designs from others, but are unable to describe or draw the common characteristics of the class.[14]

Templin's[15] study of the effects of the restriction of experience on reasoning included both verbal and nonverbal tests representing different levels of training: (1) explanations of natural phenomena, (2) verbal abstract reasoning and (3) nonverbal abstract reasoning. The deaf group was retarded 4-5 years on the battery of tests, and Templin concluded that as the items became increasingly more abstract, involving more items per problem, the hearing impaired scored lower. On the test of reasoning by analogy, the hearing impaired failed to achieve the level of a normally hearing ten-year-old.

To study the verbal abstract behavior of the deaf Wells[16] analyzed the written compositions and responses to completion sentences of 500 children, classifying the vocabulary used according to parts of speech and level of abstraction. The deaf boys were retarded approximately four years in the use of abstract nouns and relational words whereas the girls were retarded three-and-a-half years in the use of relational words and five years in the use of abstract nouns. The differences between the output of the groups is explained on the basis that concrete nouns have a definite reference point to some object whereas abstract nouns have no such reference point and consequently the meaning must be reached through specific training or incidental learning. However, Wells cautions against the assumption that increasing the number of abstract words in the child's vocabulary will increase the level of his intelligence.

Wright,[17] as did Oléron, concluded from his study of the abstract behavior of the deaf that the deaf function at an infra-conceptual level. The language development of the child is dependent upon the association between the symbol and the object with the sensory or perceptible data being a determinant. The relationship between language development and abstract thought has been schematized by Piaget[12] for the normal and by Pellet[11] for the deaf. Pellet includes four stages of development: (1) prelinguistic — birth to 7 years; (2) thought on a verbal plane to 13 years; (3) concretely generalized thought to 15 years; (4) logical abstract to adulthood. However, for the average deaf, the third stage is the final one of development.

The literature reveals a variety of studies emphasizing the retardation of the deaf in abstract functioning. Its interrelationship with language has been suggested. Myklebust[8] in his study of the language of the deaf analyzed the written compositions of more than 800 pupils from schools for the deaf throughout the United States. Utilizing the Picture Story Test which he has developed he concludes that the deaf are significantly retarded in verbal abstract functioning.

For the deaf child to reach his greatest potential there must be conscious effort on the part of the teacher and the administrators to evolve the kind of curriculum and to utilize methods and techniques which will develop and improve the child's thinking. Thinking is a series of ideas originating in a stimulus, internal or external, and influenced by a variety of motivational factors. These ideas or so-called materials of thinking, the percepts, images, memories and concepts are used in the process of thinking: perceptual thinking, concept formation, associative thinking, problem solving, critical thinking and, finally, creative thinking. In proceeding from the stimulus or problem toward a goal or solution certain "thinking abilities—habits, techniques, and guides to thinking can to some extent be learned."[14]

There is evidence[14] that the development of broader and deeper concepts is favored through the use of the unit method of teaching and that for young children the experience-type unit emphasizing multi-sensory ex-

periences establishes a structure for their formation. Such experiences provide the background upon which the new learnings are built, and for the deaf child the opportunity to develop language in meaningful situations. In discussing ways of improving children's thinking Russell quotes, among others, Hartman's hypotheses that:

"1. The reduction of abstract relations to direct perception;

"2. The constant search for similarities and differences among experiences; and

"3. The exercise of the ability to classify or categorize a large and heterogeneous body of material. . . ."[14]

will contribute toward such improvement. As the child structures his world, he discriminates, abstracts and generalizes about his environment. In determining the relationships which may be involved in the concept, he is concerned with order, with classifications and even with a hierarchy. When the teaching situation is one in which the child is led to discriminate and to generalize, the child is being aided in concept formation. The measure of a child's probable success in school may be elicited from the clarity and extent of his concepts.

To develop the concept formation of the deaf suggests the use of non-verbal materials presented pictorially. Experimental investigation has shown that the world of the deaf child is organized beyond the perceptual level.[2] Eberhardt has suggested that language is not necessary for organized conceptual thought and that the young deaf child in his early formal education involves the learning of words to express ideas which he already knows. Since even associative thinking will be a major portion of the child's early mental functioning, and since it is relatively easy to develop concept formation at the concrete level, it is important that the child reach the hierarchic stages of classification.

(Slides were shown which illustrated pictorially the various levels of concept formation from the concrete to the abstract.)

To summarize, it is suggested that non-verbal materials are useful in developing and in improving the deaf child's reasoning and that such techniques are important in the curriculum which is organized around meaningful experiences in units and which emphasizes concept formation—in short, a realistic curriculum.

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Parents' Section I Thursday A.M.

Presiding: Robert Cole, President of Parents' Section

Keynote Speech Parents' Section

CLARENCE D. O'CONNOR

Dr. O'Connor is superintendent of Lexington School for the Deaf, and is a past president of the Alexander Graham Bell Association for the Deaf.

I am happy and honored to be with you today. I have watched with interest and pride the rapid growth of the Parents' Section of The Alexander Graham Bell Association for the Deaf. You, your president, Mr. Robert Cole, and your governing board are to be congratulated for all that you have accomplished in just a few years.

Today, I would like to review with you some of the historical events, trends and developments of the past century and a half in America that have affected in one way or another the opportunity your deaf child has to-

day to acquire a complete preparation for effective living in a hearing world.

1817

The founding of the American School for the Deaf in Hartford, Connecticut—Prior to the establishment of this school there was no organized program for the education of the deaf in the United States. In fact, the traditional opinion that it was more or less hopeless to try to do much for the deaf, other than to care for them, prevailed in this country prior to 1817 as it did generally elsewhere. However, there were a few established educational centers in Europe where large groups of the deaf were being educated in a school setting as contrasted with the scattered, isolated cases of deaf children being taught individually here and there by devoted ministers or tutors employed by the rich. To these organized centers went Thomas Hopkins Gallaudet, who, upon his return in 1817, established the first school for the deaf in the United States. With this action he set in motion the first of many events or trends that have to this day affected the education of the deaf in our country, and will continue to affect this program into the foreseeable future.

The first of these influences was the introduction of the idea that temporary maintenance, including food and lodging, was an integral part of an educational program for deaf children. In order to provide educational services for the deaf of the eastern part of the United States in 1817 it was necessary to bring them all together in one spot. So the American School set the pattern that prevails to this day in residential schools particularly. With rare exceptions, today temporary maintenance is considered a part of the total educational package for those deaf children who, because of distance or other factors, must acquire their education at a residential school.

The second trend or pattern set in motion in 1817 was that of the method of communication used in the educational program. On arriving in Europe, Dr. Gallaudet first sought guidance from the Braidwoods in England who were successfully operating a school for the deaf employing only oral means of communication. No finger spelling or signs were used. However, he was not given the opportunity to observe the techniques of this system, so he went on to France where the Abbé Sicard was directing the school for the deaf established by the Abbé de l'Épée some years earlier. Here he was warmly welcomed and given full opportunity to observe and study. This French school employed the manual means (principally signs) of communication in its educational program, and it was this system that Dr. Gallaudet brought back with him from Europe and installed in the American School.

The influence of this event has been profound, for in each public residential school established in the United States subsequent to 1817 and up to 1867 the manual system was installed as the basic communication system in the program. This trend has continued, and in the vast majority of residential schools today the manual language of finger spelling and signs plays an important part in the day-by-day life of the deaf children in attendance.

There is no doubt in my mind that the opportunity for deaf children to develop effective oral skills varies inversely with the overall presence in the total educational program of opportunity to substitute manual means of communication for oral ones. I am assuming, of course, that you all hold the same communication objective for your deaf children that I do, namely the development of the greatest possible skill in oral communication and use of language in general. I am convinced that this can best be achieved in a school climate that is essentially oral, and in which manual communication is held to a minimum. Deaf children have only one opportunity to acquire this skill and that is while they are in school. It is quite possible that they will prefer to communicate manually with their deaf friends after they leave school. I have no quarrel with this, for it is their right as adults to communicate as they wish. My concern is what happens to them while they are in school. I want them to have full and effective opportunity to acquire the priceless skill of oral communication while in school so that they may leave as adults equipped to communicate with their hearing peers through normal means. The ability to communicate manually with their deaf friends will be acquired easily enough after leaving school, but oral skill must be developed early in life and can best be developed in an oral climate.

Post 1817 Era

Strangely those responsible for the founding of the American School envisioned it as the national school for the deaf. In 1817 it was believed that the deaf in the nation were few in number and all could be cared for at Hartford. This illusion was soon dispelled, however, and gradually state after state established its own school to care for its own deaf. From 1817 to 1867 twenty-five such schools were established across the nation, and all were residential in nature. Thus, the educational pattern originally introduced at Hartford by Gallaudet was extended as far west as California. The increase in the number of schools, together with more critical appraisal of the educational needs of the deaf, opened up opportunity to more and more heretofore neglected deaf children.

1864

The founding of Gallaudet College—Through the efforts of Dr. Edward Minor Gallaudet, son of the founder of the American School for the Deaf, Gallaudet College was established in Washington, D. C., in 1864. This was then, and continues today, to be the only college exclusively for the deaf in the world. Although regularly through the years bright young deaf people have been able to complete college programs in colleges geared to the normally hearing, the numbers each year have been small due to the enormity of the task. Gallaudet College, with its small classes and a staff oriented to the special needs of the deaf, has opened the doors of opportunity for a college education to many able deaf who might not have been able to achieve this goal in a regular college.

1867

Founding of the First Oral Schools—In 1867, within a few months of each other, two residential schools were founded that were dedicated to a new philosophy of education for deaf children, namely that every deaf child, not just the select few, should be given full opportunity to learn to speak and read the lips. These schools were the Clarke School in Northampton, Mass., and the Lexington School in New York City. Prior to 1867 little effort was made to teach the deaf to speak. With the advent of these two schools, however, interest in the oral approach increased, and although acceptance of the philosophy was slow the value of oral skill as a tool for more effective adjustment to a hearing world was quickly recognized, and gradually from this small beginning we have arrived today at a point where by far the majority of deaf children attending schools for the deaf in the United States are given an opportunity to develop effective oral communication skill.

1869

The First Day School for the Deaf—In this year, the Horace Mann School for the Deaf was established in Boston. With this, the first day school for the deaf, another new idea was introduced, namely that deaf children in large urban communities could secure an education in day schools in their own communities comparable to that provided in the frequently far distant residential schools.

1880-1925

The Bell Influence—In the latter part of the nineteenth century Dr. Alexander Graham Bell worked increasingly in many ways for the improvement of the lot of the deaf. First as a teacher of phonetics, then as a teacher of the deaf, he became deeply interested in broadening the opportunity for all the deaf to learn to speak and read the lips. Through attendance at national conventions of administrators and teachers from schools for the deaf he was able to broaden interest in oral education, and brought about agreement among his coworkers for an expansion of oral instruction in the schools.

Dr. Bell founded what is now known as the Alexander Graham Bell Association for the Deaf, the basic objective of which is to promote the teaching of speech to the deaf, and also established the Volta Bureau to serve as a center for the dissemination of information about deafness and the deaf. I am sure most of you parents have been the beneficiaries of Dr. Bell's foresight and interest, for frequently the first real help parents may get comes from the Volta Bureau.

Vocational Training Expansion—In the latter part of the last century and early part of the present century vocational training programs expanded rapidly in the schools for the deaf. In fact, I believe it is rather generally acknowledged that the pioneer vocational training programs developed in the residential schools for the deaf laid the ground work for the rapid expansion of vocational training programs for the normally hearing in the second quarter of this century.

Growth of Day Schools—The first quarter of the present century witnessed a rapid expansion of the day-school program. Most large cities established central day schools. New York City's Jr. H.S. 47, the largest day school in the world with over 500 pupils, was started in 1909. States also began experimenting with small single class units or units having two or three classes for the deaf. This movement made it possible for deaf children to live at home and obtain their education in the community school system. One of the disadvantages of attendance in the large urban school is that of transportation, some pupils spending as much as four or five hours a day getting to and from school. Some disadvantages of the small units are lack of proper grading, ineffective supervision and difficulty in securing and retaining qualified instructors.

This movement also brought with it an increased interest in the integration of deaf children with the hearing in regular programs. The possibility of such arrangements are naturally very appealing to parents of deaf children. But you and I know that the number of born deaf, severely deaf children, who can integrate fully with hearing children at any age is limited. Before any such move is calculated a careful evaluation of the child should be made with the guidance staff of the school for the deaf which he is attending. To subject him to the traumatic experience of failure in a program whose challenge he is unprepared or unqualified to meet would be cruel treatment indeed.

1925-1950

Some of the significant developments during this period that have influenced our programs for deaf children are:

1. The Invention of the Vacuum Tube. This important achievement made possible the great surge of interest in the use of hearing aid equipment with the deaf in the thirties and forties. The result was that hearing aids were vastly improved in this period, and equipment for assessing hearing loss became much more reliable and effective. The value of using whatever residuum of hearing was present could now be more significantly demonstrated, and the use of the equipment became an increasingly satisfactory experience.

2. Expansion of Nursery School Programs. This quarter century brought with it an increasing awareness of the learning importance for deaf children of the first five years of life. As a result, school after school lowered the minimum age of admission from six, seven and eight to three, and in some cases to two-and-a-half. The benefits of this are self-evident.

3. The Establishment of The John Tracy Clinic. This service program was designed to help parents bridge the gap between the first discovery by parents that their child is deaf and the point at which he is old enough to enter a school for the deaf. Through either attendance at the clinic itself in Los Angeles or through use of the Home Study Course in their own home, hundreds, even thousands, of parents all over the world have been given great help in learning how to meet intelligently the complex problems created by deafness.

4. The Growth of Speech and Hearing Clinics. In a sense one might say that only in the past 20 years has deafness been "discovered." During this period of time we have witnessed the rapid expansion of clinics or centers whose major function started out to be the assessment of hearing impairment and the selection and fitting of hearing aids. This expansion brought into touch with deafness a large number of specialists not previously directly concerned with severe loss of hearing, such as speech therapists or speech correctionists, the new species of specialist who has come to be known as the audiologist, directors of speech and hearing centers, and others.

Those working in these clinics have rendered great service to the public, for they have dramatized through their service programs the importance of the early detection of hearing impairment and have demonstrated the value of the early habitual use of a good hearing aid, particularly for those having moderate losses. They have provided a facility, the clinic, that will make such early detection possible. Inevitably when cases of hearing impairment are discovered through the clinical program of assesment, educational guidance and counseling have been added to the service package. This guidance frequently has been disturbing to parents, for too often a universal objective has been presented, namely utilize the facilities of the clinic for the child such as lipreading and speech lessons several times a week, put a hearing aid on him and you won't have to send your child to a school for the deaf. Too often this recommendation has been accepted by parents of children with severe losses, who find that after several years their deaf child has been exposed to the wrong program. It is then too late to recapture the lost early years of most fruitful learning time. Time and experience will ease some of these problems, of course, and the service these clinics will ultimately render to the community will be of increasingly significant value.

1950-1960

The past ten year have brought with them:

1. Hearing aid refinements. The hearing aid equipment now available makes it possible for us to reach all levels of loss. We can now use effectively to the fullest extent the residual hearing any child may possess.

2. Research. In this decade we have witnessed a dramatic expansion of interest in learning more about the nature of deafness and the problems it creates, and the needs of the deaf themselves. Much of this investigating is being undertaken by universities through government and private grants in cooperation with schools for the deaf.

3. Parents' Activities. Of perhaps greatest significance and importance in the past decade is the broadening of participation by parents everywhere in the affairs of their schools both in and out of the classrooms. No doubt every school for the deaf now sponsors a parents' association that plays an important part in the day-by-day program of the school. The formation of the Parents' Section of the Alexander Graham Bell Association now provides you, the parents, with a forum from which you may enunciate for all to hear what it is you want for your deaf children. This is healthy, for this should be heard not only by those who direct the educational affairs of the communities that support our programs, but by the administrators and teachers alike.

Conclusion

These, then, are some of the events, or trends that have influenced the development of the programs we now provide for your children. What of the future? What do you want for your child in the years to come? I think I can outline this for you.

In order that he may take his rightful place in the world as a self supporting, first-class

citizen you want him to have the opportunity to develop through his various experiences:

Communication Competence You want him to be able to speak as well as he possibly can, to understand the speech of others through lipreading, and to use effectively the language of our land in all its forms.

Educational Competence You want him to reach the maximum achievement possible, educationally. His terminal point may be sixth grade, ninth grade, senior high school or college. Whatever level he is capable of reaching, you want him to have the opportunity to reach that level.

Economic Competence You want your child to acquire those skills that will create for him a fully satisfying career doing the things he wants to do and is best fitted to do. Hold fast to the knowledge that no vocation in which hearing is not a prime requirement is beyond the reach of a deaf boy or girl.

Social Competence You want him to grow up to be a happy individual, confident in himself, capable of living harmoniously with his fellow man, and aware of his privileges and responsibilities as a citizen of our land.

Seek then, and demand for your deaf children the best programs our society can support. This is your right and their heritage, for by contrast to their status of ineffectiveness centuries ago the deaf today constitute a strong right arm of our nation through their capacity to produce and participate as first-class citizens.

Parents' Section II Thursday P.M.

Presiding: Harold Donaldson, Vice-President of Parents' Section

A Parents' Organization

ROBERT H. WAGNER

Mr. Wagner is president of the New York Association for the Help of Retarded Children.

I should state in the beginning that I am not unaware of your organization and your problems. I have had some interesting connection with it. One of your parents here today has a young daughter who goes to a swimming program which I attend, and she and I have formed a friendship which I feel is truly valuable for me in understanding her and her problem. My wife is a teacher of a special class, and I should really have addressed you as fellow parents, because we came into this work through parenthood and became alerted to the problems of parents and problems of a handicapped child in this way. I am sure you will agree with me that there is no way in which you can become more sensitive to these things than through parenthood. My wife now teaches a special class for the severly retarded outside of the city of Rochester and she has done quite a little work in the speech field. Every month across her desk and onto mine comes the *Volta Review*, and so I have followed as a layman some of the problems and discussions you have had in this periodical.

Our national association developed 10 years ago when a group of parents came together with the idea that they needed a national association as a unifying force, a forum, a spokesman for the movement for the mentally retarded in the country. Prior to that time there were a handful of chapters, local groups of parents interested in the problem. Most of these organized around state schools or institutions. None of these groups prior to 1948 did much more than conduct birthday and Christmas parties for the children.

The problem of mental retardation, the problem of deafness and the problems of all of the handicapped have been with us for generations. Why it was that after World War II people began to take a renewed interest in doing something about them and why they organized as they did is a study for the sociologist, the anthropologist and the other ologists and not for me. Nevertheless, in 1948, almost simultaneously across the country, parents in communities began to organize to do something for their mentally retarded children. It was a different kind of organization. The leaders in these groups came together in Minneapolis ten years ago to form the National Association.

The pattern of development across the country has been different in different areas. In New York State, as in many communities, the start was made when a mother put an advertisement in a newspaper asking if anybody in the community, having the same problems and the same interests, would like to meet. If so would they come to her house at a certain time on a certain evening. This was written up in one of the New York papers and from this meeting a New York City group was formed. The New York City group saw that it shouldn't go it alone and undertook to organize across the state. We now have 30 some chapters in New York State. We have 700 chapters in the United States, and we have state associations binding the local units within the state, and the national association at the top. We have incorporated these groups separately or

state-wide. We operate through a board of directors on the local level, a board of governors on the state level and board of directors on the national level. It is a representative organization, with the members having the right to elect officers and directors and meet in convention annually, doing much the same thing that you people here are doing now.

This meeting today is not too different from some of the earlier meetings of our national association which I have attended. We came together in small groups and every year amazed ourselves because the groups became larger. Many of us began to bring our children to the conventions, and we found that they associated, which gave us an opportunity to talk back and forth with them, and it was an enjoyable occasion. This has gone on until our conventions now are rather large week-long affairs with between 1000 and 1500 parents coming together.

There is this difference in the way we began and the way you began. It has historical reasons and it is of some importance to you, I think, to understand it and understand us and perhaps my philosophy as I continue to express it. We're an underdog movement. We started as an underdog movement. Our children were despised; there was a strong prejudice against them; the professional answer was one of no hope and really nothing to give. Some professionals worded this better than others, but when it was all said and done, they said: "Your child is mentally retarded. He will never advance beyond the age of three years, four years, five years. He will never amount to much. Why don't you put him in an institution right now and forget him? It will be better for you and it will be better for him. You can go about your business and the school will take good care of him, and don't worry because he never will grow up."

Something in the dynamic of this situation after World War II, something in the educational level of the parents involved, something in the movement of the times with regard to science, medical research, etc., something of the dynamic of the infantile paralysis movement, something of this sort of thing was the spark, I think. A lot of the parents said: "Something can be done for our children. Something *must* be done for our children. And forgetting them is not the answer; forgetting them is not the way the something is going to be done." Having taken so many rebuffs for such a long period from doctors, psychiatrists, psychologists and social workers we had a strong reaction against including them within the organization. Our first constitution and our first by-laws said that our organization must be a parents' organization, and it must have parents on the board of directors to the exclusion of anyone else. And it had safeguards written into it so that no professional could control the movement; no professional could some along with a pat way of curing retardation, a new fad, diet or technique and foist it upon us and leave us without voice or without objection. For a long period this held and there is still a strong feeling within the movement that it should be parent-dominated.

This did two things, I think. Initially it aroused a very strong reaction on the part of the professionals, who would never admit that they had nothing to offer, that they might conceivably have been less than adequate in handling the problem. They termed the parents emotional and hard to deal with, and said that ours was a pressure group. On the other hand it also developed a strong reaction among the parents themselves, because they said, "We are out on the end of a limb and we're going to get sawed off if we don't get in and work, if we don't make this thing succeed." So running through our movement, as perhaps through no other movement, is a strong dynamic parent leadership. It is a leadership that insists that the parent become informed about the problems confronting him and insists that the parent provide the leadership for the movement itself.

The American Association on Mental Deficiency had been organized for more than 50 years before we came along, and it was doing an interesting job on the professional level, holding meetings, getting papers written and encouraging people to go into the field. It had a parents' section, but it lacked dynamic. It provided us with help in starting. Some of its leaders were leaders of our organization. It didn't open its doors and fold us in any way in beginning, and there was resistance to going in even if they had wanted us. The two organizations now come together a great deal more. They hold meetings and have sessions for us; we hold meetings and have them involved. We are now concerned that there be a partnership with the professional persons concerned with the problems, but we go our separate ways. On the other hand, we are no longer totally a parent movement. The membership is open to everyone in the community who is interested in the problem. Our boards of directors now include community leaders, both professional and lay, and our officer groups on local, state and national levels include non-parents as well as parents.

When we started a man by the name of Dan Boyd wrote a little pamphlet that meant a great deal to some of us, *The Three Stages of the Parents of a Mentally Retarded Child.* I have come to wonder if these aren't the stages that the parents of any handicapped child go through. They may be intensified for parents of the mentally retarded child, but I doubt it. The three stages that Dan Boyd outlined are these: First the parent had to accept the child and accept the problem as one the parent

can wrestle with. The doctor can tell you the child is handicapped, but this doesn't mean you accept it. You spend some time running around to different doctors and different clinics to see if the first one might not have made a mistake. You say. "This just can't happen to me," and you wallow in a good deal of self-pity. You say, "I just can't take it. I don't know what I am going to do." I think that most parents have some of these feelings. My own experience was that it took us a good three years to accept our son and to come to grips with the problem on a personal level of just what it means to have him in the home. We had to make changes in our own personal living and to gain some equilibrium so that we could look outside of ourselves.

The second stage is to come together with other parents and to begin to do things with other parents for the children and for ourselves. This went on all over the country with the parents of mentally retarded children. Parents met and talked about their own children and formed chapters. You can see that this is real therapy for a parent, because he learns that other parents are in the same position, have the same problem, that the children really are similar in many ways. Despite the difficulties, each is a child, and each has this handicap and parents face all the bread-and-butter problems of getting them to eat, to like different types of food, to handle the situation when the child is away from home and is served with something he won't eat and he wants something else, whether you can take him out, whether it is good for him to travel, this sort of thing.

Out of this come the plans for the programs for the children. You must remember that in our association we had no community programs for the child. There were no schools that were open for the children, except the state institutions, and these we were attempting to turn our backs on, saying that these would not do. There were no classes in the public school system for the severely retarded; there were no clinics; there were very few doctors who had much understanding; there were no recreation programs; there were no programs for the older children. Coming together was pure pioneering. But, we could at least start social programs; have parties together; and have recreation programs. Any time you have three mothers and three children in a back yard, you have a recreation program. The children feel better and the mothers feel better, and out of this you can develop a program that will be meaningful and successful on a long range basis.

The third stage that the parent goes through is the maturing stage when he has seen himself in the total community picture, a community picture, a community which has many handicapped people, different kinds of handicapped people within it, having various needs.

Our chapters, I feel, have had somewhat the same development. The parents come together and they have had to accept the problem together, the social problem of meeting and accepting the mental retardation or the handicap on a community level rather than on a personal level. It is evident that they had to do something together beyond the three mothers and the three children in a backyard. In our case we had to start classes for the children, and this we did in most areas. We started pilot projects, demonstration classes. We would find a person to be a teacher, we would find 10 or 12 youngsters, get a church room, a basement, a fire hall, or something. We would start holding classes. It might be two days a week, three days a week or five days a week, a half day or longer if we could afford it. We had to raise the funds to support the class, and we had to get a board of directors, and we had to go through all that you would go through if you were starting a school system on a small scale. We tried to start clinics, and in many areas we did start clinics. Our local chapter raised the money and started a clinic for the mentally retarded at Strong Memorial Hospital right here in Rochester. We started recreation programs on a broader basis than the three children in a backyard, until today we are operating swimming programs. The swimming program I spoke to you about really came as a result of the local group for mentally retarded seeking the use of a swimming pool in the public school system for all handicapped children. There are all types of handicapped youngsters represented in this program. This is a kind of a supervised free play program. There is some instruction given, but the youngsters have rather a free hand to develop as they can in the water without organized, formalized, instruction. We operate bowling programs, day camp programs, dancing programs, overnight camping programs—a great variety of recreational programs.

Then it dawned upon us, as it must dawn upon parents of any handicapped child, that the child eventually grows up, and that all of our efforts, in order to be meaningful, must see the child become an adult and must carry through to the age when we are no longer able to provide the supervision and protection that we did when he was a child. Our concern for the mentally retarded has been to find some acceptance in the community, to find some training so that they can function as nearly self-sufficiently as possible, to train them so that they can assume jobs in the community, if possible, and to find the jobs for them. This has led us into programs for the establishment of sheltered workshops and occupational training centers, where the mentally retarded can go and be trained for jobs, or can go and be gainfully occupied, where they can do work

that is productive for the industrial community, or where they can do work that at least will keep them constructively occupied at home.

We are thinking now of going into the field of residential care within the community on a short term basis, so that parents might have a place nearby where they can send the child for a short period while they go on vacation, while they recover from illness or when there is a death in the family, or some other family emergency, where a child may be sent when the burden of caring for the handicapped in the home is just too great, when the tension between parents, between siblings, is just too much to bear, and respite is needed for a short period.

Finally, we are going into what we consider one of the most dynamic aspects of our program, the bringing of the children from the state schools back into the community to live in the community, work in the community, and become somewhat self-supporting in the community. In this state we now have two residential units operating with two of the state schools, one here in Rochester and one in Westchester County. In addition, we are concerned with programs for the adult in the field of recreation and home living. We are also concerned with the counseling that is necessary for parents if they are to understand their child and his problems at home, understand themselves and their reactions to the problem, and learn to grow with the child.

There is a great tendency on the part of all of us to sit back and feel that we have the problem solved if we place our child in a program at a given moment. The child becomes three years of age, we say we have accepted the fact that he is a handicapped child, and we place him in this school; we will solve the problem for him. We can lull ourselves into a false sense of security if we do this, because, if we don't grow as the child himself grows, when he becomes an adolescent, we are not with him. If we are not with the handicapped child when he is an adolescent, he is just as bad off as he was when he was a baby if we weren't beside him, and didn't understand him, and meet his needs at that particular time. To meet the needs of an adolescent in terms of infancy is, of course, completely impractical. Now this is true also in moving from adolescence into adulthood. To meet the problems of adulthood, whatever the handicap, in terms of programs that met the needs of an adolescent is impossible and can only mean frustration on the part of both parent and child, and result in a completely unsatisfactory adjustment. Therefore, we help the parent, to tide him over to see the total picture.

Now this has been, in brief, the history of our movement. I think it has more than happy relevancy to you, because as I said when I started, I think the more you are in this field, the longer you work in it, the more you understand that really our problems are similar problems. We are all dealing with children, handicapped children, and that the particular handicap imposes some restrictions and has some special requirements, but it has similarities to other handicaps. We are all concerned with one thing, achieving the best for our children. We can best do this when we attempt not to impose on him our definition of what is his fullest potential or what is best for him, but when we see the problem in terms of the child himself.

I would leave a thought with you: there is a danger in this movement. I would like to point it out, and say to you that in some ways you may be sorry you ever got this started. Because the danger is in stopping at the second stage; the danger is saying, "Now we have come together and we are talking together, we are providing the birthday parties and the dances and the social functions; this is enough." The danger is that you will not survive and move on to the third stage. If you are not willing to take the responsibility of the third stage you might better have never come together in the first place. Because, in my mind, it is the third stage that gives meaning to the other stages. And it is the third stage which makes the greatest contribution to your child, to yourself, and to the society in which you live.

This is the stage where you see the picture of the child with a handicap in the community, and other children with handicaps in the community and the special needs of all people in the community. You recognize the personal worth and dignity of every individual and you accept him for what he is and you make a place for him. You respect his work and his contribution to society. Then you will move your whole association up to a mature level of adult citizenship in the community.

The second stage can at best be a PTA to a professional group or to a school. I have nothing against PTA's, but in this stage you will never make the full contribution of parenthood to what we in our movement have called the team of professionals. It seems to me that the way is open for you to move into this team, as our group has done. This team is a team of doctors, psychologists, psychiatrists, social workers *and* parents. The parent has a real contribution to make as a member of the team. The professional does not easily accept the parent as a member of the team, and the parent, as we found, does not easily accept the professional. The parent, once he

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For further information address **George T. Pratt, Principal**

operates on a level that warrants acceptance, can have that acceptance. Then he can make a real contribution. He can contribute in terms of understanding the child as no professional can ever fully do unless he is also a parent of a handicapped child.

I have often said, "If I could only get the doctor to take our boy and live with him for 24 hours we wouldn't get such advice. He wouldn't tell us to do some of the things that he insists we ought to do and that we find are just impossible." The insights into the handicapped that a parent achieves are helpful. These should not be laughed at, and I don't think they should be lightly received. We are seeking and are attaining inclusion of parents on the professional staffs of some of our great clinics handling retarded children.

There is no reason why this parental approach should not be included for any handicapped group. I'd like to see this go one step further—to see the parent as part of the great community team that is concerned with special services for all people. You find him on the school board, you find him in the PTA, you find him here. He ought to come as a mature adult. He ought to come with an assurance that he knows what he is talking about, and make his real contribution on this level. Now you are going to grow up to this level, as you work in an Association such as you have here. As you learn all that you can about the particular handicap, about your children, about the professional services that are available for your child, about the special services that might be available for your child but are not now available. If you accept the answer now that everything is here that you need, that you need nothing more, you might just as well go home.

Certainly there is more that you need; there is much more that our communities need to do for all handicapped people. We are a long way from having the problems of the handicapped solved. We have seen a great advance in our school system, and many special services are now available. There are special classes, special speech teachers, remedial reading classes, specialized arts and music courses, specialized library services, summer school work. During the depression many of our schools cut out these services as frills. They'll cut them out again as frills if we don't have an informed citizenry who will insist that these are not frills, that the special service that any child needs is never a frill. This is a contribution that we can make. I think your Association has gone a long way toward achieving the kind of maturity that will place it alongside our Association and other associations in demanding of our communities the best that there is for the special children that we seek to serve.

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Business Meeting Parents' Section

At 4 P.M. the business meeting of the Parents' Section was opened by President Robert Cole. Brief opening remarks were offered by Dr. George Pratt, Superintendent, Clarke School for the Deaf, Northampton, Mass., and President of the Alexander Graham Bell Association for the Deaf.

Mr. Cole explained the objectives of the national parents' organization and then commented on Senate Resolution 127 and House Resolution 494 concerning Federal aid to help train teachers of the deaf.

Mr. Cole outlined the advantages of the Speakers' Bureau recently formed to serve parent groups.

Sister Rose Antonia, St. Joseph Institute, pointed out that each parents' meeting at St. Joseph begins with a discussion of the *Volta Review* and the articles which may be of interest to the parents. This would seem like an excellent idea for other parents' groups to follow to make use of the material in the *Volta Review* and also to encourage parents to become members and receive their own copies of the *Volta Review* each month.

President Cole strongly suggested that all parents' groups endeavor to make every parent a full $5 member of the Alexander Graham Bell Association for the Deaf. This is one way in which additional funds can be made available to the organization.

President Cole then opened the meeting for the nomination of officers. Mr. Lowell, Rochester School for the Deaf, moved that the existing slate of officers be nominated and elected by popular acclaim. The motion was seconded and carried unanimously.

The following slate of officers was elected for the period 1960 to 1962:

Robert Cole—President
Harold Donaldson—Vice President
George W. Fellendorf—Recording Secretary

The Governing Board was then nominated and elected from the floor. The following were elected for a two-year term, 1960 to 1962:

Dr. Thomas McMullen, Akron, Ohio
Mr. Herbert Bearman, New York School for the Deaf, White Plains, N. Y.
Mrs. William H. Harper, Jr., Keokuk, Iowa
Mr. Barnett Freedman, Chelsea, Mass.
Mr. Robert Laskey, Kansas City, Kans.
Mrs. William Cummings, Bethlehem, Pa.
Mr. Clarke Lowell, Rochester, N. Y.
Mrs. Floyd W. Lehmann, Glenview, Ill.
Mr. John Fogarty, Los Angeles, Calif.
Mr. F. W. Truly, Shreveport, La.
Mrs. Barbara MacDonald, Winnipeg, Canada
Mrs. John Eadie, Northampton, Mass.
Mr. A. W. Gough, Portland, Ore.
Mrs. Mildred T. Sharoff, New York City
Mrs. Daniel L. Azarnoff, St. Louis, Mo.

Following the elections, there was a discussion of fund raising. Mr. Cole suggested a benefit dinner in Washington for the purpose of honoring some dignitary and also for fund raising. He is to explore the possibilities of this with associates in Washington. If advisable such a benefit dinner will probably be held in the Spring of 1961.

There being no further business, the meeting was adjourned at 5:50 P.M.

George W. Fellendorf
Recording Secretary

At a Thursday evening meeting of the Governing Board of the Parents' Section President Cole appointed the following regional committee-men to coordinate regional activities and to provide liaison between the various regions and the national office in Washington.

Northeast area, including New Jersey, Pennsylvania, Washington, New England, and south to Florida—G. W. Fellendorf. Sub-Chairman, Harold Donaldson and Barnett Freedman.

Midwest area—Mrs. Azarnoff. Subchairman, Mrs. Lehmann.

South—Mr. Truly.
Northwest—Mr. Gough.
Southwest—Mr. Cole.

The group discussed projects and programs for the national organization for the coming two years. Dr. Lane suggested a review of laws relating to the education of the deaf in the various states to serve as a guide to parent groups who are endeavoring to effect legislation in their states. This project was tabled for further discussion in the future.

Another project discussed was that of encouraging young people in the last two years of high school and the early years of college to enter the teacher training program. It was suggested that youth counselors and guidance personnel from public schools be encouraged to attend Parents' Section meetings and particularly to hear outstanding speakers who might be available through the Speakers' Bureau. Also, young people's fellowships from churches and youth organizations should be approached to send their counselors to the evening meetings of the parents' groups. Following the initial expression of interest, speakers should be sent to the Future Teachers of America meetings and young people should be encouraged to learn more about the educational possibilities and the rewards available by entering the special education field. It was agreed that this program to interest young people in entering the special education field should be the primary target of the par-

ent groups for the coming two years, and although other programs and projects may be added, this was the initial program to be pursued.

Mr. Cole pointed out in conclusion that local publicity chairmen should be appointed by each parents' group and they should see to it that no opportunity is missed to publicize the existence of the Parents' Section and to set forth its goals.

Banquet Address Thursday Evening

Time and Tide in Developing Services for the Handicapped

JOHN J. LEE

Dr. Lee is Distinguished Professor and Chairman, Department of Special Education and Vocational Rehabilitation, Wayne State University, Detroit, Mich.

How Man Aspires, How Social Gains Are Made. Kipling wrote in the *Elephant's Child*, "I keep six faithful serving men. They've taught me all I know. Their names are *Who* and *What* and *Why* and *How* and *Where* and *When*." Kipling was saying that it is man's nature to aspire to a better life and that he has an inquiring mind. If an inquiring mind is needed anyplace, it is in our field of services to the handicapped. People everywhere have a sense of values. They want always to improve their way and condition in life. They want to share in Divinity by helping their fellow man. So we use our intelligence and the knowledge that has been accumulated over the centuries to survey where we have come, evaluate where we are, and try to project the gains that appear possible to accomplish in our time. That is the way we have developed our culture—our culture such as it is. That is the way social gains have been made, substantial or weak as they have been.

At this point, may we observe that just as wealth equals natural resources that have been discovered and refined through work, minus all that has been consumed or lost or destroyed; so our culture equals all that man has created, plus all he should have created, invented and discovered, minus all the lags that have accumulated throughout the ages, due to lethargy and indolence and unnecessary dependency and depravity. Now that doesn't make us look very good. But I believe it was that kind of an observation that prompted Coleridge when he exhorted, "If you can discover or invent anything, be it ever so infinitesimal, your lifetime long, that will benefit the way and condition in life of your fellowmen, in heaven's name, produce it." That is the exhortation of purpose, of effort, and of devotion that we try to follow.

Time and Tide in Services for the Handicapped. With just that kind of an introduction, may we come to the subject: "Time and Tide in Services for the Handicapped." This subject was suggested to me by Longfellow's poem, "The Builders," and by a certain Chinese proverb.

All of you remember that Longfellow started his poem by saying, "All are architects of fate working in these walls of time." I believe he meant that each of us respectively works within the walls of *our* own time, the span of *our* longevity. I think he conceived that these walls continue through the ages, that they are forever building. I think he believed, he hoped, that each one in every generation would add to those walls, build them higher, stronger. Perhaps he hoped that throughout the centuries these walls would be wider apart to broaden the avenues of life. Perhaps I am only speculating. But time is just a measured segment of eternity during which man accomplishes and events transpire. The Dark Ages are recorded in history as a long period of low accomplishment and disastrous events. Dr. Kaner some ten years ago said: "When the history of the first half of this twentieth century is written, it will be recorded as the first half century of childhood." We believe our history, particularly the recent decades, have been the brightest decades in human experience and we in America think we're God's chosen people. We think we are. Now if we are, may we look at some of the forces that have helped us in our enterprise and may I list these five?

Five Forces of Our Social Advance. We in this country have been blessed with natural resources probably exceeding those, at least known and discovered, in any other place in the world. That is our first great blessing. *Second*, we have developed the capabilities of our people, substantially at least. We have developed them so that they can discover, invent, create, produce, be leaders, be capable and responsible citizens. *Third*, these have created rising economic levels, economic wealth. *Fourth*, we have tried to design and to maintain an enlightened government, at federal, at state, and at local levels. *Fifth*, philanthropy has enriched and accelerated our progress. Philanthropy is expression of man's great kindness and generosity. These, I believe, are the "keys of liberty," the great forces that have helped us make our social advances. They are the buoyant forces that constitute the tide that lifts us up.

Now I come to the Chinese proverb I referred to in my introduction. It applies to our programs for the deaf and to all other services affecting mankind. This is that Chinese proverb: "The same tide lifts all our little boats at the same time." That means that as we survey human needs, as we prove the effectiveness of our services, and continually improve and perfect them, all the services for the handicapped of all types and of all agencies rise together. That leaves it our job to survey, to serve, and to perfect. And today we have, as a result of these forces, in the enlightenment of our people, a public opinion.

The Public Opinion That Supports Our Programs. The public opinion we have today, that supports our programs, to me says, *first*, if there is any knowledge or skill known to medical science whereby the illness, the disability of any child can be cured or reduced, each child shall have that treatment. We have public law and nation-wide support for the medical treatment of afflicted and handicapped children. *Second*, if there are any means whereby we can educate our handicapped over, around, or in spite of their limitations, they are entitled to special education. But special education is not nation-wide. Note the areas where we don't have special education, in rural areas, and for certain types of handicapped in many of our urban centers. *Third*, if there are means whereby a disabled adult may be rehabilitated, those services are provided as a right of citizenship, nation-wide.

These programs constitute citizen rights for the handicapped today. And it leads me to an observation and an admonition. The observation is this: that when we combine the social forces, in support of our programs and services, and see them in light of public opinion, which is society's support and society's expectation, then I believe we can comprehend our possibilities, and what we are trying to build. Now the two admonitions that I believe are most important in working with so many groups are: first, "We ought not overstate our effectiveness, or present inaccurate data on need, or by implication make claims that we can't fulfill. I think we're doing that to a considerable extent and someday an enlightened public will catch up with any over-extended claims and the public's confidence will drop. Second, it's time that we employ some real teamwork and some real discipline in our ranks, that we select our best leaders and support them. We're in the Big Leagues now, in terms of time and tide. We're seeking federal support for our programs, specifically four million dollars a year; a million and a half for preparing teachers of the deaf and two and one half million for speech correction. The bills are before the Congress. Many of you have devoted much to the great effort that has been made, nation-wide, to support that legislation. The Congress is interested. Apparently, it wants to inaugurate these programs. We hope it will.

How Programs for Educating the Deaf Have Developed. Now may we see where we have come and what kind of "walls" we have been building? Let's look at a few highlights in the history and development of our programs. Beginning in the seventh century and intermittently for eight centuries, just a few stones were placed to point our later building. *Ecclesiastical History* records that during the seventh century, St. John of Beverly taught a deaf boy. Seven centuries later, Adolphus Agricola (1443-1485) taught a deaf boy to read and write. Early in the sixteenth century, Cardona, (1501-1576) in Milan, Italy, set up *Principles For Educating the Deaf.* Pedro Ponce de'Leon (1520-1584) was the first instructor of the deaf. In 1620, Jean Pablo Bonet wrote the first book on *Methods of Teaching the Deaf.* In 1648, John Buliver published the *Deaf and Dumb Man's Friend.* In 1749, in Paris, Jacob Rodriguez Percire taught his deaf sister and a deaf boy d'Azy'd Etavigny. These were as stones laid to point the way.

The "walls" began in 1775 when Charles Michel de l'Épée established the first school for the deaf in Paris. Schools were continuing, on-going institutions. They taught groups of children. Perhaps they were the real beginnings in our "walls of time."

The Development of Schools for the Deaf. De l'Épée was the first real builder. Samuel Heinecke founded a school near Hamberg, Germany in 1760. Moritz Hill founded Berlin's School for the Deaf. All of these employed the "manual" method. Soon after the first American school for the deaf was established in Hartford, Connecticut, in 1817. Soon the New York and Mt. Airy (Pennsylvania) schools came into being. In succession and with great pride, Virginia, Kentucky, Ohio, and then the other states in rapid sequence established state residential schools.

During 1869 and 1870, Boston and Chicago established "day schools." Subsequently, other cities followed. Our federal government established Gallaudet College. The Alexander Graham Bell Association was founded in 1890. Surely the "walls" were building.

An Observation and Two Significant Developments. Now may I make an observation and cite two significant developments. First, as an observation may I ask if a couple generations, if not three, of educators of the deaf didn't dissipate a lot of their energy and leave the tide of public confidence weakened when they quarreled over the "oral" and "manual" methods. Today we'd say we should do experimentation, research and evaluation and get valid, scientific professional answers. I think our tides can rise now if we can move above quarreling or disagreeing to the level of professional knowledge and scientific evaluation. As a result, we can heighten public confidence.

Today, all of our states, either themselves or in cooperation with adjoining states, and most of our larger cities, and many counties have educational programs for the deaf.

Secondly, it is significant, that recently colleges and universities, after too long a delay, have entered into the field of helping prepare teachers, are doing research, and are engaging in experimentation in cooperation with our schools. The legislatures and boards of education all over this country are appropriating tens of millions of dollars and over the years they have appropriated hundreds of millions of dollars for the institutions we use. Our second significant development: We are now asking the Congress for a million and a half dollars to prepare teachers. We said we needed 525 more qualified teachers each year. I must ask if we wouldn't have had a stronger case, if in addition to requesting support for preparing teachers, we had also asked for money for experimentation, for research, and for evaluation. I personally believe we would. I believe we would be building stronger walls: maybe we could also build them higher. I believe the Congress would have reacted favorably. Now that's our field. Let's look at some others.

Developments in Other Related Fields. Our history goes back 340 years to 1620. The first 169 years to 1789 were colonial. We didn't have a national government. People were poor. Economic levels were low. The masses were not well educated. The handicapped were left dependent. Life was short. We didn't suddenly change, but we moved into another period. From 1789 to 1918, social advance came along pretty slowly, but it grew faster as we began to build our institutions. In the late 1800's and early 1900's, along through the years came our day schools and I see each of these a building of the "wall." Now what happened?

Social advance and change is sporadic. It is accelerated after every war. During wars nothing happens, no great gains are made in civilian society. Every resource goes for the prosecution of war and for national survival. During that time, however, we rapidly discover new knowledge, invent, develop technology. The ideals of our people are revived. Social perceptions are extended and new leaders are developed. Then after the war, all these gains are translated into our civilian society to improve our way of life. Social advance is always retarded during every depression, and it is delayed by every war. Our periods of advance have always been brief in duration up to now. I would say too brief to allow new organizations and programs to get the resources they need to develop their functions, improve their effectiveness, gain public recognition and confidence and become firm and secure, unless they have fortunately had dynamic leadership, with high capabilities, initiative, and devotion. Lack of those attributes fosters social lag. You may take a

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directory of private agencies and note the hundreds and hundreds of private philanthropic beneficent organizations which we have. Many of them are having 37th, 38th or 39th annual conventions. They started soon after World War I. They are the ones who survived. They are the ones which had dynamic leadership, were serving a social need, and had a real purpose. But I wonder how many different organizations through lack of leadership or lack of interpretation and public understanding failed to survive. If any failed to survive, our walls aren't as high as they should be. It isn't enough just to meet demand or to keep people on waiting lists or serve those who come to us. We can be classified as "good and faithful servants" when we work at that level; but I have the feeling that just working at the level, (just serving those who come) doesn't lift us to creativeness or to mastery.

What about the responsibility of our federal government? It has been greatest for veterans. A news release in 1956 stated that following all the wars of this country up until 1956, our federal government had spent 81½ billion dollars for veterans and veterans' benefits. I am on an advisory committee to the Veterans' Administration. It is spending four billion dollars a year. For educating all the deaf children and all those having defective speech in the United States, we have asked for only four *million* dollars, and we don't yet have that. Now what about our veterans?

The Development of Veterans' Benefits—The Concept of Rehabilitation. Following the Revolutionary War, our government gave each soldier $80 severance pay. The disabled, totally disabled, not partially disabled, received $5 a month pension and free land and were left dependent on their families. Following the War of 1812, the War with Mexico and the Civil War, the federal government followed the same pattern. It was a little more liberal with pensions, it gave free land, and left the disabled dependent on their families. After the Civil War, they did establish a few small veterans' homes. After World War I, there was no more free land. Someone apparently remembered what Franklin said. He said, "He that hath a trade hath an estate," and rehabilitation was substituted for free land. We gave more liberal pensions, gave all disabled veterans medical treatment and rehabilitation and we set up veterans' hospitals so our veterans, if they were totally disabled, were the responsibility of the government, not of their families. Our federal government assumed more adequately its responsibility. Since World War II, we have nothing else, nothing new; we provide pensions, larger pensions, veterans' hospitals with better treatment and care, and rehabilitation. That seems to be all of the enlightenment and resource we have to work with.

Now how long does this last? In 1932, I

read a little human interest story. There was a veteran of the War of 1812. He had been disabled and he must have married a very young wife late in life, for 120 years after the War of 1812, there was an announcement in the paper that the last pension payment had been made to the last surviving widow of a veteran of the War of 1812. If we have already spent 81½ billion for veterans' benefits, our government has a long, continuing obligation ahead. Rehabilitation is our best and only answer for the disabled.

Other Advances In Serving The Handicapped. In 1815, the first school for the blind was established; in 1816, the first school for the deaf; in 1845, the first institution for the feebleminded; during the 1850's, institutions for the delinquent; during the late 1800's and early 1900's, day schools for the deaf; in 1904, the first Workmen's Compensation Act; in 1918, the Veterans' Rehabilitation Act; in 1920, the Civilian Vocational Rehabilitation Act; in 1935, the Social Security Act. These are great and significant developments in our social history. Now what is the significance of all these?

Let's draw a picture—visualize it! First let's draw a line of time. We can make it six inches long, from 4000 B.C. to 2000 A.D. Each inch can represent a thousand years. Two inches from the right we can place a star to symbolize the birth of Christ. Through the story of the *Good Samaritan*, He gave us a new social philosophy—*A Doctrine of Social Responsibility*. The Samaritan was a "philanthropist." Prior to that time, social practice grew largely out of ignorance, indolence, poverty, and superstition. Since 1000 A.D., we have been emerging from these defeats, for ignorance, indolence, and superstition have always defeated everyone in every land throughout the ages. During the last 2000 years, in democracies, with a spirit of brotherhood, by educating our people, believing in the dignity of every person and by using intelligence and knowledge, let's look at another line. *Let it be a line showing man's ability to control his environment.*

At 4000 B.C., that line was low—close to the line of time. It continued low, very low, for thousands of years. It was low for over 5000 years. Somewhere around 1000 A.D., history still records the Dark Ages. It was low until we could implement the Judean-Christian tradition, educate our people, and establish democratic governments. Since 1620, here in America the line of "man's ability to control his environment" has been rising. The rise was slow from 1620 to 1789; it rose, but not rapidly from 1789 to 1918; the rise during the last 40 years—you project it to whatever heights you will. These are the "walls" we are building.

During the last four decades, the walls of

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time, of social advance, have been built awfully fast and awfully high if we look at it that way; but if we look at our culture, it equals all it could have been minus all the lags due to lethargy and indolence. I wonder if Divine Providence didn't expect us to use our intelligence and expect us to lift that line of man's ability to control his environment many centuries earlier. Observe the discoveries we're making today, Salk polio vaccine, and all the others. I believe those discoveries should have been made centuries ago, if man had used his intelligence and knowledge and disciplined himself to work as the Creator hoped would be done.

Carl Becker is a noted historian and philosopher. He was invited to give a William Cook Foundation lecture at the University of Michigan in 1944. May I tell you a few of the things he said? Perhaps they are only crests on the waves of time. I believe he described a part of the tides that confront us and that they tell us something. He said, "During the 18th and 19th centuries, the people of the United States enjoyed a greater degree of political liberty, social equality, and widely based material prosperity than has ever fallen the lot of any other people. They're the 'good old days.'" This happy state, he says, was not won by desperate struggles against the oppressions of men, but by unremitting effort to appropriate the rich resources of a great and undeveloped country. If those were the "good old days," they were only good for the energetic and the non-handicapped. They were just greatly blessed by natural resources and they appropriated those resources. But I said a few minutes ago, we don't have any more free land. We don't have any unclaimed natural resources.

Then Becker said, "That happy time of universal prosperity, of careers open to talent, of the maximum of freedom of enterprise conjoined with the minimum of responsibility is now past beyond recovery." We can't go back to the 1890's or to the early 1900's. This means to me that with technology advancing, with professionalism rising, with evaluating techniques sharpening, the thresholds of employability are rising and a continually increasing proportion of our people will become unemployed and unemployable—plain dependent. This means to me, that the prime issue in our field is whether our treatment and therapy, our educating, and our rehabilitating programs and services can develop rapidly enough in this country, can improve their effectiveness sufficiently to arrest the rising tide of dependency that threatens an ever increasing proportion of our population. We are engaged in a field that challenges real professionals. Becker said, "Pauperism may be more widely spread, work may be less abundant." He said, "High economic authorities pronounce that this time of

pressure lies not more than twenty years ahead. It may be a time of trial for democratic institutions." He made those statements in 1944. Sixteen of those years have already passed.

I conclude by saying, time and tide are both demanding. They are extremely demanding. We are working in an area that is critical and crucial for the general welfare and the manpower of our nation, for survival in a world of conflicting ideologies. Extending and improving our programs and services are the issues of supreme importance. We can only work and hope and pray that the tides will continue to lift all of our boats. We have a supreme task, a supreme commitment and a supreme obligation to try to work within the walls of our respective times to broaden the avenues of life and hopefully to make them secure and strong. Educating all of our people, developing their competence, rehabilitating the disabled are our only means of advance, perhaps of survival.

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Adjustment and Guidance Friday A.M.

Chairman: Stanford Blish, Supervising Teacher of Upper School, Clarke School for the Deaf, Northampton, Mass.

Guidance and Rehabilitation

MONICA KING JENKS

GUIDANCE—THE HEART AND CORE OF THE REHABILITATION PROCESS

Mrs. Jenks is senior supervisor of the Massachusetts Rehabilitation Commission.

In this world of ours communication has reached a high peak, but it is not effective unless there is understanding, and it is important for us to have as much understanding as possible of our roles with the deaf.

The Vocational Rehabilitation Program provides services to help the deaf achieve the fullest physical, mental, social, vocational and economic function of which they are capable. The Federal government, since 1920, in partnership with the states, has enhanced our nation's resources by providing an opportunity for disabled persons to enter the productive labor market. This humanitarian investment in the disabled brings about increased productivity, and gives value and dignity to each individual. In the fiscal year ending June 30, 1959, 80,720 people were rehabilitated through this program. The goal for the fiscal year ending June 30, 1960, was set at 90,000.

The special report on services to the deaf and hard of hearing of the Massachusetts Rehabilitation Commission states: "Particularly rewarding are the services which the Commission is able to furnish to those handicapped by profound deafness or marked degree of deafness. Nearly all are in need of special services to minimize their disability and to allow them to become self-supporting.

"The problems of the deaf and hard of hearing are not as well understood in the community as might be hoped in view of the large number of persons who have a serious hearing loss, but as their principal problem is basically that of ready communication with other people in the community, it is understandable that the public is not too well informed."

The Commission works with two groups: the young deaf people who have been students in schools for the deaf and need special training and preparation, and the older people who have acquired marked loss of hearing after years of employment in an occupation unsuitable for a hearing handicapped person. The latter must receive personal adjustment training, such as lipreading and auditory training, as quickly as possible.

The report of the Commission shows that 112 deaf and hard of hearing clients were rehabilitated during the fiscal year 1959. The services given them are as shown:

Training and placement	40
Physical restoration and placement	39
Physical restoration, training and placement	13
Counseling, guidance and placement	20

Hearing aids were furnished to 52 clients.

The heart and core of vocational rehabilitation guidance is diagnosis and prognosis of employability. What do we consider? Assets which can be developed and liabilities which are limiting. When these are assessed we assist the person in choosing, preparing for and entering an occupational field where he will be employable.

The vocational rehabilitation counselor has to know the total physical picture, including specific disabilities and other limiting factors. He gets this information from the general medical information and the reports of specialists. He considers the total person, and is interested in the physical ability of the individual to engage in suitable employment.

Factors to be considered are the mentality, education, level of learning ability, the ability to profit from the training and the ability to learn and perform the duties of a job. Also to be considered is the occupational level which the individual can achieve in his employment, such as professional, semi-professional, skilled, unskilled, self-employment and sheltered.

We look also at his personality to determine his ability to get along with others, his personal appearance, honesty, reliability, emotional stability, his initiative and resourcefulness. We consider, too, the cooperation of the family, and the availability of facilities.

Supervision may be accomplished by one of three methods:

1. Personal visit to the client and preparation agency by the rehabilitation agent. This is by far the most satisfactory method, and enables the agent to evaluate the situation.

2. Periodic, usually monthly, reports made by the preparation agency, or the client, or both. This method works fairly well for institutional training, but should be supplemented by supervision by the agent.

3. Supervision delegated to a cooperating agency, individual or committee named for

this specific purpose. This method is not very satisfactory because laymen do not understand the technique of supervision.

Follow-up is supervision of the client after he has been employed. It is the finishing touch of rehabilitating a disabled person and helping him to adjust to his job.

Guidance during the follow-up period can include:

1. Helping the client to understand the duties of his job; his relations to those with whom he is to work; his hours; his wages; pay periods; overtime and the facilities available for his comfort, convenience and welfare.
2. Checking the requirements of the job the client is to perform to see that he has the necessary knowledge and skill, or to arrange for his instruction in details with which he is not familiar.
3. Re-emphasizing, for the younger clients who have not previously been employed, and for others who have shown laxity or lack of discrimination, manner of dress, personal hygiene, courtesy and the value of a smile.

It should be stressed that reliability, dependability, punctuality, loyalty and honesty are important factors in making good on a job. An employer will at times tolerate slow workmanship and even minor derelictions if he knows that he can depend on the employee.

The final questions to be answered in completing the counseling are:

1. Has the client been adequately prepared for remunerative employment?
2. Has he been placed in employment?
3. Are his services satisfactory to the employer?
4. Are preparation and employment consistent with the mental, physical and vocational abilities of the clients?

Adjustment of Deaf Children Friday A.M.

Co-Chairman: Dr. June Miller, Director, Speech and Hearing Department, University of Kansas Medical Center, Kansas City, Kans.
Symposium: Dr. Marie Meier, Richard Thompson, Marian Quick and K. W. Partin

Adjustment of Deaf Children: Who, What, When, Where, How

MARIE MEIER

Dr. Meier is consulting psychologist at Mill Neck Manor School for the Deaf, Mill Neck, N. Y.

As we think about the variations in the use of the words adjust and adjustment, let us consider the who and what categories in the title. First, the child. What does the child want? In his own words he might say, "I wish I knew what my parents, my teachers and my friends want me to be, and I wish they all agreed. Then I might have some chance of pleasing them all, and I'd be happy."

Next, the parent. What does the parent want? Does he want, more than anything else, that his handicapped child be free from differences or discrepancies? Does this desire lead him from clinic to clinic, looking for medical, surgical or electronic correction which will make his child just right?

Next, the professional worker. What does he want? Does he try to bring the child into proper relationship with his environment, unhappily aware that the environment is frequently so inflexible that great pressure must be applied before the child can fit at all? How aware is he that much of this pressure must be sustained by the child?

Obviously all parties concerned must adjust, in many different ways, at many different times and places. Life is a process of adjustment. The child must adjust to his parents, who expected normalcy and were presented with a handicap. The parents must adjust to the child and accept him and his handicap. They gradually adjust to the realization that, with this particular problem, there is no complete solution, either medical or educational, but only alleviation. They must understand that the limitations imposed upon the child's behavior must be faced, not once, but every day. They must understand that it is necessary to explain these limitations to the child's playmates, his teachers, his doctors, not once, but at every opportunity.

The medical profession must adjust, to the extent of learning more and more about advances in audiology and education, so that we will hear fewer and fewer parents say, "The doctor told me my child was deaf, but that nothing could be done until he was five years old."

The speech and hearing therapists and audiologists must adjust, to the extent that they establish and follow a code of ethics which will prompt them to learn enough about all of the current diagnostic and therapeutic procedures to realize that there is no one right way and no one infallible person or clinic or school.

How? A conference such as this is certainly a good place to begin. Here we have the parents and the professional workers in the fields of medicine, psychology, audiology, speech and education. As a matter of fact, we are all well-represented, except for those individuals who are most concerned with the decisions which we, in our wisdom, make for their benefit, the deaf and hard of hearing children themselves. Perhaps we should have invited some of them to join in this discussion about their adjustment. In their absence, can we agree: "You've got to love to know a deaf child?" The path is clear, it seems to me, for the professional workers. We must approach the whole series of problems with a willingness to learn, to listen, to try. We have been too busy defending this procedure or that procedure to have time to use the experimental approach and test all procedures.

For the parent, the path is less clear, for many reasons. He is, and should be, deeply emotionally involved with one particular child —his own. As deafness is being discovered earlier and earlier in life, it is the young and inexperienced parents who are faced with a series of recommendations, all too often conflicting and confusing. We need a very careful study, participated in by parents, professional workers and the deaf themselves, to show us what help is needed, who needs it, when, how and where it can best be offered and how it will probably be received.

I am recommending, as a start on this task, a study of parent attitudes. I am asking the Parents' Section of the Alexander Graham Bell Association for the Deaf to consider this as a possible project. We have almost no information at the present time, except that which lies in the minds and memories of experienced persons in this field on:

1. When, how and why do parents suspect hearing loss in a child? What is the range of variability?

2. What are the attitudes of these parents at various stages in the child's life? How are these attitudes reflected in the child's adjustment?

3. What is the range of variability in services offered? How does the degree of availability of service affect the child's adjustment?

May we hope to meet again in two years with some of the answers to these questions?

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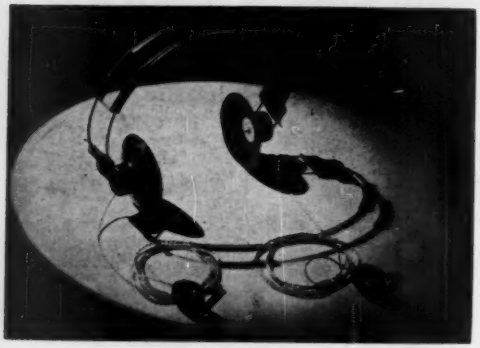

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Adjustment in High School with Normally Hearing Contemporaries

RICHARD E. THOMPSON

Mr. Thompson is clinical psychologist and guidance counselor at Beverly School for the Deaf, Beverly, Mass. A graduate of Clarke School for the Deaf, he graduated from Brown and Nichols School, a country day preparatory school, and received his A.B. degree cum laude from Harvard University in 1952. He also holds a master's degree.

A deaf boy or girl, about to complete the eighth or ninth grade level in a school for the deaf and having the ability to do high school work, may have to answer what can be a difficult question. Should he attempt to enter a senior high school with normally hearing classmates, or should he attend a special high school for the deaf located at a school for the deaf? This is an important question in view of the fact that today there is more severe competition for jobs, and therefore a greater demand for further education. It is a situation that places an increasing responsibility upon guidance counselors, school psychologists and rehabilitation workers who are concerned with the future of young deaf people.

There is no denying the fact that it is very difficult for hearing impaired young people to function adequately in a regular high school with the normally hearing. There are many problems to face, many frustrations, many pitfalls. The guidance counselor or school psychologist must be aware of all these difficulties.

It is generally said that in order to succeed in a regular high school a young deaf person who has the necessary academic qualifications for high school work must also have: (1) good speech, (2) excellent lipreading ability, (3) superior intelligence, (4) an outgoing personality and (5) the right kind of parents. I do not wish to imply that these factors are not important. But the fact of the matter is, that there have been deaf boys and girls with poor speech or poor lipreading ability or even both who succeeded in high schools with the normally hearing. There have been young deaf people not necessarily of superior intelligence, but of at least average mental ability, who were able to complete a high school education with the hearing. Furthermore, there have been deaf adolescents graduating from regular high schools, who may not have had outgoing personalities or whose parents showed very little confidence in them and gave them little encouragement. Why did these boys and girls succeed? Obviously, the

five factors I have just named do not fully explain the reasons behind successful integration in a high school for the hearing.

We need to focus our attention more on the possibilities of coping with the different problems that arise in a regular high school situation. We should not need to make a definite conclusion that there is only one approach open to deaf boys and girls desiring further education on the secondary school level: that is, a special high school for the deaf. To be sure, there are numerous problems for young deaf people to face in a regular high school, but what we need is more information on the techniques of coping with many of these problems.

The role of the guidance counselor at a school for the deaf is to help each pupil and his family to evaluate realistically his qualifications, academic achievement, reading level, frustration tolerance, personality make-up, etc. This is to make certain that the pupil would not be going into a situation that would put too much stress upon his mental health. It is the function of the counselor to help each boy or girl to reach the most adequate level of adjustment possible within his limitations, needs, abilities, aptitudes and interests.

The results of such guidance may vary in each case, depending upon the circumstances. We might have, for example, a young deaf person who decides he should not go to a regular high school with the hearing because he would get nothing out of the classroom lectures, and therefore not be able to advance himself academically, as he would in a special high school for the deaf where he would be able to understand the teachers and the classroom work. Such an individual is not being unrealistic about the problems that are real, and it is his privilege to prefer going to a special high school for the deaf.

On the other hand, we might have a person who may have the same type of speech, speechreading skill and intelligence, but who understands what to do in different problem situations in a regular high school and does not feel too apprehensive about them. He knows that he will get only a small percentage of what is being said in class, but he has learned different techniques by which to obtain the necessary knowledge. Moreover, he appreciates the challenge of going to a regular high school with the hearing because he understands it. He, therefore, may get satisfaction out of meeting that challenge. He does not, however, try to act like a normal person, but tries to function normally under abnormal circumstances.

If a young deaf man or woman decides to enter a special high school for the deaf, he should go without feeling that he is inferior to one who goes to a regular high school. One type of school should not be considered in-

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ferior to the other. The best arrangement should depend upon the circumstances of each individual, rather than on the status or value system of the counselors, parents, teachers or school administrators.

In other words, I do not feel that it should be considered more "normal" for a deaf adolescent to attend a regular high school with the hearing rather than a special high school for the deaf. Acting like a normal person by attending a regular high school is not the same as feeling like a normal person or like a worthy human being despite his hearing impairment. The crux of the matter may be that a deaf person attending a high school specially set up for the deaf may *feel* more like a normal person than one who tries to *act* like a normal person by struggling unnecessarily in a regular high school with the hearing. This is not to say that young deaf people should not go to regular high schools, but the point is that the way each deaf individual attempts to participate in the high school world of the hearing should fit his own circumstances. Proper and realistic placement is of importance.

No responsible counselor should place any personal values on either course of approach that the deaf person should take toward obtaining a high school education. The final decision should be left to the deaf boy or girl and the family after they have evaluated and discussed with the counselor that particular student's limitations and assets. The role of the counselor is to help each individual see the advantages and disadvantages of both avenues and evaluate them in terms of his academic and personal qualifications.

Many of the difficulties a deaf boy or girl encounters in a regular high school may not be due to the disability itself, or to his limited speech and lipreading proficiency. Rather, they may be related more to his personality characteristics than to his deafness. It is up to the counselor to see that each deaf boy or girl tries to rectify his undesirable personality characteristics. For example, frowning or looking unpleasant when not able to understand a hearing person through speechreading would naturally make the hearing person feel uncomfortable and perhaps confused. A deaf person should have a good understanding of himself and his personality traits so that he can increase the possibilities of having satisfactory social relationships with the normally hearing.

Much of the deaf individual's adjustment in a regular high school depends upon how he manages the social situations he might meet. Special training in social skills is therefore very much needed in schools for the deaf. A guidance program can help prepare deaf chil-

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dren to manage more comfortably and effectively the everyday interpersonal relations he would experience with normally hearing classmates, as well as with teachers in a regular high school. I realize that in many cases the deaf individual has to experiment with different coping techniques by himself more or less on a trial and error basis and then adopt those that seem appropriate to him. However, I feel that special training in social skills while he is still in a school for the deaf can prevent many painful mistakes, and make it more possible for him to adjust satisfactorily in a regular high school.

In a guidance program, which should be a part of the curriculum of every school for the deaf, deaf boys and girls can be taught the ways of, and the language for, explaining themselves or their circumstances to others. They should be exposed to the negative aspects of their deafness. They should be prepared for the prejudices and discrimination they might experience. They should be brought face to face with their own shortcomings, the painful facts about themselves such as possessing poor speech or lipreading skill, underdeveloped reading ability, etc. Taking part in social activities with groups of normally hearing children from the local community while still attending a school for the deaf can provide valuable experience.

In the accepting and friendly atmosphere of a school for the deaf, prospective high school pupils can be helped to recognize the unpleasant aspects of their disability. If and when they enter a regular high school, they should have, as a result of their training in social skills, a far greater inner strength to stand up against and cope effectively with the difficulties, disappointments and frustrations. Their self-esteem would not be unnecessarily damaged.

SUMMARY

To summarize, it is unfortunate that so few schools for the deaf have established guidance and counseling programs in which qualified deaf boys and girls are trained in the coping techniques necessary for successful integration with the normally hearing on the senior high school level. Because of this lack, we cannot say with justification that it is absolutely impossible for young deaf people to enter regular high schools with the hearing. By the same token, we cannot say with honesty that it is entirely possible for every deaf student to adjust in the academic and social life of high school with normally hearing peers. To maximize their chances of succeeding in a regular high school, guidance counselors or psychologists at schools for the deaf can help boys and girls who have the ability to do high school work to develop desirable personality characteristics and appropriate social skills.

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The deaf individual and his family should try to make the final decision as to which type of high school would best fit his circumstances within his limitations and academic background.

1. Meyerson, Lee, "A Psychology of Impaired Hearing," in *Psychology of Exceptional Children and Youth*, Cruikshank, W. M., ed. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1955, 120-183.
2. Wright, Beatrice A., *Physical Disability — A Psychological Approach*. New York: Harper and Brothers, 1960.

Role of the Administrator in the Guidance Program

MARIAN QUICK

Miss Quick is supervising principal at Western Pennsylvania School for the Deaf, Pittsburgh.

In recent years there has been a growing conviction among educators of the deaf and those who work with the adult deaf that guidance facilities need to be expanded during the child's school attendance and extended to provide help when needed after graduation. Unfortunately most schools, either because of lack of funds or available trained personnel, are unable to offer the type of assistance which will serve the hearing handicapped over such a wide age span. In those schools which have a guidance program with qualified workers it is possible for administrative and supervisory planning to insure an efficient and appropriate use of the services available. However, there are many schools where no one person has the sole or partial responsibility of directing the guidance program. In these schools only a careful delineation of responsibility can insure that pupil needs will be met adequately. Those who share this responsibility include the parents, the teachers, the houseparents, the psychologist, and, in short, all who direct student activities. Any degree of success in coordinating the efforts of such a diversified group demands alertness and sensitivity on the part of all the people involved in administrative planning.

Ideally, I believe that the function of guidance is to give direction or advice to the individual so that he can realize his potential in a comfortable, healthy fashion. How well we attain this goal must be a matter of great concern to everyone in this room today.

I should like to discuss some of the possibilities for action within the scope of the supervising teacher or principal who is unable to consult or work with a guidance counselor employed by the school. Let us consider educational and social planning, and finally, the youngster who has difficulty in adjusting to the established setup.

First, let us turn our attention to the matter of selecting a suitable class placement for pupils. The supervising teacher who is aware of the intellectual level and academic achievement of all of the students under her direction has a backgroud of useful, comparative information when teachers or others recommend a change in the child's educational pattern. She must be open to suggestions and at times be willing to be overruled in spite of prior judgment based on clinical reports. For, in the long run, the teacher's continuing experience with the child gives her enough evidence to speak with authority. The person in charge of the educational program must be vigilant in her efforts to spot the gifted and bright children and place them in classes which will challenge their ability.

She must be alert for signs of strain and frustration in the pupil who is having trouble maintaining his equilibrium in a class beyond his level. The supervising teacher who knows the long-term gains of the boys and girls in the department cannot fail to detect the child whose rate of achievement suddenly and unaccountably begins to slow down. Through conferences with the pupil, teachers, parents, houseparents and others it is often possible to discover some of the contributing factors which are influencing the student's attitude or ability to attain.

Depending upon the school policy the supervising staff, together with the teachers, can arrive at a regular reporting system which will acquaint parents with the progress of their youngsters. Again, depending upon administrative policy, the one who directs the academic program can arrange conferences with the parent who voices concern or has questions about his child's record. It has been my experience that parents appreciate an honest opinion rather than a glowing but sometimes unrealistic picture of the pupil's learning behavior. No one wants the child to succeed more than the family does, and if a student is not working to his fullest capacity, the informed parent can use his influence and be a powerful motivating force to aid the teacher in her classroom efforts.

In general, I believe that the academic system should be geared in such a way that there are opportunities for all pupils to operate successfully at levels suitable to their individual abilities. Within that framework the supervising teacher can maintain fluid lines of progression making classroom assignments, not on the basis of a class list agreed upon in September, but at any time during the year when outstanding success or failure make a change desirable for the child or his classmates.

Socially our boys and girls need even more guidance than their hearing friends do. They should feel secure in their ability to do and say the thing that is acceptable. The school cannot afford to overlook opportunities for its students to engage in events suitable for each age group. Trips, parties, attendance at entertainments or sporting events, dances, sports, games, clubs—all of these and more—should occur within the school group and with hearing boys and girls. If those in charge are properly oriented, these activities become more than a period for having fun. They can be valuable preparation and training which will instill proper social behavior. Specific problems and questions which arise may be

discussed at staff meetings and become the basis for a series of lessons in or out of the classroom. Parents should be encouraged to foster and maintain contacts and friendships in the home community so that the young adolescent will not leave school to be confronted with the necessity of establishing a whole new set of relationships with youngsters his own age.

Providing a suitable educational and social climate, however, does not answer the learning problems of many of the boys and girls who attend our schools. The opportunities are there, but some cannot take advantage of them in accordance with their known ability.

How can we help the child who is nonconforming or inattentive? What eventually becomes of the aggressive or withdrawn child? I will not recite the long list of labels well-known to all of you which could apply to many of the young people who have just left your classrooms for their summer vacations. These are the children who appear most frequently in the principal's office for disciplinary action. They are the ones who have the most trouble on the playground or in the dormitory. They are the ones most often isolated from the rest of the group because of inability to conform to rules. Their reputations are so poor that other children immediately blame them when there is a question of responsibility for a misdeed. Their inability to profit or be challenged by the regular school program creates a special problem for the teacher. For, unless they learn to attend and find satisfaction through intellectual attainment they waste their own time and that of their classmates because of the frequent distractions they create.

Many causes for their behavior appear to be obvious to us. There are those who face adjustment in difficult home or social conditions. Some are victimized by multiple handicaps with attending emotional problems. Often there is no clearly defined reason why the youngster behaves in a manner which is unacceptable to the group.

The often repeated formula, "Find the cause and treat it," has little real meaning for most of us today. The average school, even in the foreseeable future, cannot hope to provide the extensive diagnostic and guidance services needed. All of us have been challenged by these children and their problems. We are not psychiatrists, and it is seldom possible or suitable for us to attempt to change disturbing conditions outside the realm of the school. We cannot accept negative behavior even if we are aware that there are numerous extenuating reasons for it. Disapproval and punishment do not bring about any lasting change in conduct. The crucial

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problem lies in aiding the individual to substitute acceptable behavior for unacceptable behavior. To modify his attitudes one must have repeated practice in situations where he gains reinforced approval which is satisfying to him.

If the youngster's difficulty is so severe and longstanding that the teacher has difficulty in arranging challenging circumstances within the classroom, she might ask for assistance from the principal and recommend a specific type of productive activity which she thinks might be desirable. Together they can decide upon a situation, not only held in high esteem by others, but one which will be of such length and frequency that the pupil will have little difficulty in meeting its demands. Before the child participates in the experience he must understand that his ability has made him eligible, but that only his own effort to maintain satisfactory behavior will give him the right to continue. For instance, if a pupil has shown ability and interest in art work it may be possible to make plans with the art teacher for him to join the special art class for those students who have done outstanding art work. Sports are important to boys and girls who are growing toward maturity. It may be that the gym instructor can be prevailed upon to give this child a chance to try out for one of the team activities. Many times a pupil begins to make a better adjustment as a result of the relationship that develops between him and an understanding teacher.

Only ingenuity and persistence can bring about the right thing for each child. If the youngster is able to enjoy success in limited situations it is often possible for him to extend the positive behavior to wider areas of his life. In short, any special interest when given sufficient opportunities for development may induce self-discipline and more frequent attempts to secure real approval rather than negative attention.

In addition to consulting with those involved in the educational setting, the supervisory staff may seek help from agencies outside the school. These may range from vocational counselors and child guidance clinics to Scout organizations and social service groups.

I realize that I have devoted my attention almost exclusively to a small minority in the school population. I have done so because I believe that those in this group have critical needs, and if not helped they will graduate poorly equipped to cope with the complex problems which they will face as adults.

In the May, 1960, issue of *Exceptional Children*, Dr. Richard C. Brill reports on a study of the adjustment of the deaf children of deaf parents. His findings indicated that, of 28 deaf families studied, 15 showed evidence of social or psychological maladjustment which was in turn reflected in the poor adjustment of their children. He further pointed out that this number was very likely minimal, since there were probably families having trouble unknown to the school staff who conducted the study. I cannot help speculating on the kind of adjustment these parents were able to achieve during their school years. I feel sure that their problems did not spring up full-blown just as they reached maturity.

All this week we have heard a wealth of evidence pointing to the need for a constant re-evaluation of our aims and methods. Let us not fail to use every resource to develop school programs which will promote healthy adjustment for all of our pupils.

Brill, Richard C., "A Study in Adjustment of Three Groups of Deaf Children," *Exceptional Children*, 1960, 26, p. 464-466, 470.

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A Parent Speaks

K. W. PARTIN

Mr. Partin, of Asheville, N. C., the father of Elizabeth E. Partin, discusses her experiences as she successfully adjusts to the hearing world.

Before discussing our daughter Betty's adjustment in the hearing world, the entire Partin family wishes to thank each of you who contributed to her training, education and development. Furthermore, you guided us, her parents, in the realization that we had to find a balance between being over-solicitous and authoritative.

Betty is now 23 years old. Her deafness was congenital, and we are told that she has a hearing loss of 86%. She knows no sign language. Her integration into the hearing world has not been an easy experience. The other night Betty and I discussed this until after midnight. Much of what I say this morning is a report to you of the efforts she has made toward success thus far. She tells me her first year was the most difficult. During her twelve years in Clarke School she received splendid academic preparation, and while she had been carefully taught beautiful table manners, the social graces, reading, writing and arithmetic, speech and language, she was socially unprepared to enter the hearing world. While I understand that monumental changes are taking place under the able leadership of Dr. Pratt, here is what Betty says proved a severe handicap as she struggled to adjust to the entirely new world of hearing people.

Graduating from Clarke in 1954 at the age of 17, she found herself uncomfortable and shy in a group of hearing people of any age. While she made many personal friends, particularly among the girls of her age level, in groups she felt a sense of "not belonging." She was in Clarke School during her adolescence. This is the age when normal boys and girls enjoy mixed companionship at movies, dances, in dating and in ordinary conversational fellowship. Betty and her classmates were almost entirely isolated from hearing companions on her age level and from friends of the opposite sex. Yes, I fully recognize the tremendous responsibility you teachers and leaders have in protecting the boys and girls against their own emotional inclinations. However, should their hard of hearing handicap deny them the natural happy relationship any normal teenager enjoys? Should they be separated from hearing children 9 months a year?

This inexperience proved to be an added handicap to Betty in her earnest endeavor to adjust to a hearing society. I will not further emphasize this point and I hope you will forgive my frankness, for I am confident you are seeking ways and means to prepare your children for an earlier and easier social adjustment as well as academic achievement.

We planned for Betty's high school education in a small private school in Asheville. This she emphatically rejected, saying that her brother, Ken, four years her senior, had graduated from Lee Edwards High and she intended doing likewise. Now this school has an enrollment of more than 1300, quite a jump from the 140 in Clarke. Her determination prompted Ken to come to us and, in essence, say: "If you expect Betty to have a fair chance in Lee Edwards, you stay away. She must be on her own. You can best help her by not interfering. Don't handicap her by using your influence." We recognized the wisdom of his counsel. We obeyed. Consequently, Betty had little difficulty in high school, and graduated in three years. Scholastically, in her graduating class of 364, she stood 36th. Socially she was one of three girls in her junior year to be invited into both girls' service clubs and the local sorority. She was elected treasurer of her service club. Gradually overcoming her group shyness she managed to make a splendid adjustment among the girls, but still experienced difficulty in the realm of male associations. It was during this period that she also served as secretary of the Young Peoples' Department of Central Methodist Church.

After high school Betty enrolled in Greensboro College in Greensboro, N. C., and was elected treasurer of the freshman class as well as to other offices during her two years there. Looking ahead to her junior year, she wanted courses not offered by Greensboro College, and so last summer she enrolled in the University of Miami, with a student body of 12,000 students. This was the supreme test. Living on the campus, sharing a university apartment with three other girls, she was strictly on her own. She is majoring in sociology and has maintained a B average. It is possible for her to graduate in February if she elects to take the remaining six courses required, thus she would receive her B.S. degree in three-and-a-half years. She plans, however, to stay through both semesters to take extra courses in religion and sociology, and graduate next June.

Betty asked me to say this: She has found that college and university professors lean more on written themes and term papers than on quizzes. She had written book reviews before going to high school but few papers expressing original ideas on various subjects. For instance, in her drama course last semester she had to read one play each week for twelve weeks and each week write a paper clarifying her own thoughts. In addition to these, she

wrote four term papers; two on original ideas and perspectives on two studies of a small community. During this same semester she had only four quizzes, not counting her final examinations.

Other than beach parties, swimming, dating, football and basketball games, etc., her major campus interest is centered around the many activities of the Wesley Foundation. This beautiful building provides worship and social facilities for all the Methodists in the university; the third largest religious group on the campus. Last January Betty was elected to the Wesley Council with office of Member-at-Large. She has been elected secretary of the Foundation for her senior year.

Now, for some parental confessions: We did not recognize early enough that the really serious aspect of hearing loss does not lie so much in not being able to hear, as in the profoundly disturbing effect it has on a deaf child when he is unable to make himself understood by hearing folk. We belatedly discovered that the inability of others to understand the speech of the deaf is really the very serious limiter which deafness imposes in social adaptation and adjustment. Hence, we should have made a more serious attempt to provide more speech training in our home in an effort to upgrade Betty's speech performance. Fortunately she has acquired sufficient clarity of speech to be well understood, and thus enjoys the comfort of being accepted in most life situations.

Long ago we ceased searching for a miracle to restore Betty's hearing. When she was three, Dr. Samuel Crow of Johns Hopkins convinced us that hers was a nerve deafness and that our efforts should be concentrated on providing a proper education. Handicaps do make a difference. Betty had to accept the inevitable problems of a different school life, social life during adolescence and the choice of a vocation. Vocational opportunities for the deaf are severely limited and those which do exist are sharply restricted. This is because a disability in the area of communication (lack of ability to use the telephone, in particular) affects so many critical areas of life.

Betty is determined in her efforts to be of service to those less fortunate than she. This summer she goes out to the Asheville Orthopedic Hospital several days each week to do what she can in the physiotherapy department and in social service work among the children. She is also working at Lake Junaluska, the Methodist Assembly grounds for the Eastern United States.

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Betty is leading a normal life. She's happy. She has owned a car for four years, drives with relaxed confidence, reads and follows city or road maps accurately, uses her gasoline credit cards, has her own bank account, pays her bills by check and balances her check book. Later this summer she is to be an attendant in three weddings, and will not only be quite busy with the various preceding social functions, but is planning entertainment for her friends in our new home.

I'm convinced that any deaf child needs frequent contact with hearing companions of the same age level during his *early* formative years. He needs exposure to the everyday language used by his hearing buddies. He needs to build up his confidence in making himself understood by his young companions. He should not wait until graduation at age 17 or 18 before being tossed into the hearing world to sink or swim. By removing the iron curtain separating him from the opposite sex and from hearing companions, he is less likely to develop types of undesirable behavior, both social and psychological, which are often attributed to the deaf; such as rigidity of personality, suspiciousness, bluffing, chronic depression, shyness, reticence or restlessness. Is it not better to integrate him into hearing society during his formative years, thus sharpening his lipreading of everyday language and so strengthen his self-confidence?

Mrs. Partin and I daily thank God for Betty; her training, her Christian character and her gratifying accomplishments. Through her burning desire to help those less fortunate and her determination to excel in any vocation she chooses, we feel confident of her future. Yes, we are tremendously proud of our daughter.

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CHILD HEALTH DAY—Oct. 3.

SOCIETY OF HEARING AUDIOLOGISTS—Oct. 6-8; Chicago.

NATIONAL REHABILITATION ASSOCIATION—Oct. 10-12; Oklahoma City.

ACOUSTICAL SOCIETY OF AMERICA—Oct. 20-22; San Francisco.

AMERICAN SPEECH AND HEARING ASSOCIATION—Nov. 1-5; Los Angeles.

SPEECH ASSOCIATION OF AMERICA—Dec. 28-30; St. Louis.

EASTERN SECTION, AMERICAN LARYNGOLOGICAL, RHINOLOGICAL & OTOLARYNGOLOGICAL SOCIETY—Jan. 6; Boston.

SOUTHERN SPEECH ASSOCIATION—Apr. 2-7; Miami.

COUNCIL FOR EXCEPTIONAL CHILDREN—Apr. 4-8; Detroit.

CENTRAL STATES SPEECH ASSOCIATION—Apr. 14-15; Chicago.

ACOUSTICAL SOCIETY OF AMERICA—May 11-13; Philadelphia.

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BOOK NOTES & REVIEWS

The Other Child, by Richard S. Lewis, Alfred A. Strauss and Laura E. Lehtinen, 2nd edition. New York: Grune and Stratton, Inc., 1960. 148 pages, cloth. $3.75.

This is an enlarged and revised edition of a book for parents of brain-injured children originally published in 1951. It is dedicated to one of the authors, the late Dr. Alfred A. Strauss, whose major contribution to this field was demonstrating differences in mental organization between the brain-injured mentally retarded (exogenous) child and the familial mentally retarded (endogenous) child. He also identified the child without intellectual deficit (minimally brain-injured) but who showed characteristics of brain-injury in tests, behavior, and learning.

The first five chapters deal with identification of the brain-injured child of normal or near normal intelligence and a description of his mental functioning. Disturbances in perceptual-conceptual organization affecting how the brain-injured child thinks are discussed in clearly defined terms. Language disturbances arising from the sensory deficit follow. Aphasia in children is defined as oligophasia, meaning a deficit in language or lack of its development in contrast to aphasia in adults which is a loss of the language capacity possessed before the onset of brain-injury. Language difficulties may result from visual and/or auditory perceptual disturbances and conceptual organization of language into meaningful patterns of thought. One suggestion for dealing with the language deficit, of interest to teachers of the deaf, is the recommendation to use gestures and pantomime to help interpret language and enrich communication. The volatile use of the hands and arms in conversation by many Europeans is cited as an example of this kind of enhancement. The Strauss behavioral syndrome of hyperactivity, distractability, disinhibition, and perseveration are described with many helpful examples.

Perhaps the most practical chapters, from the parent's point of view, are those dealing with management in the home and education of the brain-injured child. Specific suggestions as to the advisability of having a room all his own, a fenced-in safe place to play, and living in a single house rather than a duplex or an apartment are offered. Several possibilities for educational programs are explored. Educational expectations and basic psychological principles underlying the educational program are discussed. In the case of the brain-injured child, maturation does not play the same role in "readiness" as it does for the normal child. The brain-injured child must receive effective help to get ready to learn. Emphasis is placed upon pre-school training in nursery school or kindergarten to develop social awareness, and primary education in special classes where the brain-injured child's special disabilities are taken into account.

The question is posed as to what becomes of these highly disturbed young children as they grow into adulthood. The authors present an optimistic answer—that given proper help and direction many of them develop into independent, self-sufficient adults. However, the main responsibility for this achievement rests in large measure upon the acceptance, understanding, and persistence on the part of parents.

Teachers of the deaf should find many provocative concepts in this book. The chapters dealing with perception, conception, and language are especially fruitful in providing insight into some of the language problems of deaf children. The gradual diminution of "otherness" and subsequent integration into the regular school program should be helpful in planning for children with some of these characteristics found in schools for the deaf.—*Margaret S. Kent, Head Teacher, Maryland School for the Deaf*

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